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ANNUAL REPORT OF OCEANOGRAPHIC OBSERVATIONS

海 洋 調 査 年 報

VOLUME 12

1 9 6 3

國 立 水 產 振 興 院
Fisheries Research and Development Agency
Republic of Korea

1 9 6 5

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OCEANOGRAPHIC OBSERVATIONS

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1963

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Fisheries Research and Development Agency
Republic of Korea
1965

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凡　例

時　　間：韓國標準時間（東經 135°）

水　　溫：°C（$^{1}/_{100}$ 눈금）

鹽　　分：‰（千分率）

酸　　素：cc/ℓ

波　　浪：0 ～ 9 階級

굵　　니：4 階級（0, S, M, B）

　　波高는 0 = 0 m, S = 1 ～ 2 m, M = 2 ～ 4 m, B = 4 m 以上

透 明 度：m

바　　람：風向은 16 磁針方位

　　風力은 Beaufort 風階級法에 依함.

雲　　量：10等分法에 依함.

氣　　溫：°C（$^{1}/_{10}$ 눈금）

天　　氣：B = 晴　BC = 晴曇　C = 曇　R = 雨　F = 霧

水　　色：Forel 水色計番號에 依함.

氣　　壓：mm（空盒晴雨計）

水　　深：미—터法에 依함.

浮游生物："+" 標는 浮游生物이 存在한다는 表示임.

EXPLANATIONS

Time : Time observation is refered to the meridian of 135° E (Korean Standard Time).

Water Temperature : °C in hundredths of a degree in Centigrade.

Salinity : in ‰, determind by the Knudsen Methods.

Oxygen : Dissolved Oxygen Content is expressed as cc/ℓ at NTP, determined by the Winkler Methods.

Sea State : Code (0—9)

Swell Condition : Code (0. S. M. B)

O indicates no swell.

S indicates low swell (Height 1~2 m).

M indicates moderate (2~4 m).

B indicates high (greater than 4 m).

Transparency : in meters.

Wind : Direction : in 16 point scale.

Velocity : in m/s when it is shown in Beaufort scale.

Cloud Cover : Coverage is expressed in tenths of the whole sky covered.

Air Temperature : in tenths of a degree in Centigrade.

Weather : b=dlue sky

BC=partly clouded

C=cloudy

R=rain

Color of the sea : in Forel scale

Atmospheric pressure: in mm by Aneroid Barometer.

Depth : in meters determined by the wire length corrected.

Plankton : "+" mark is a meaning of the existence of plankton.

제 1 편

연 안 정 지 해 양 관 측 성 적

PART 1

COASTAL OCEANOGRAPHIC OBSERVATIONS

1963

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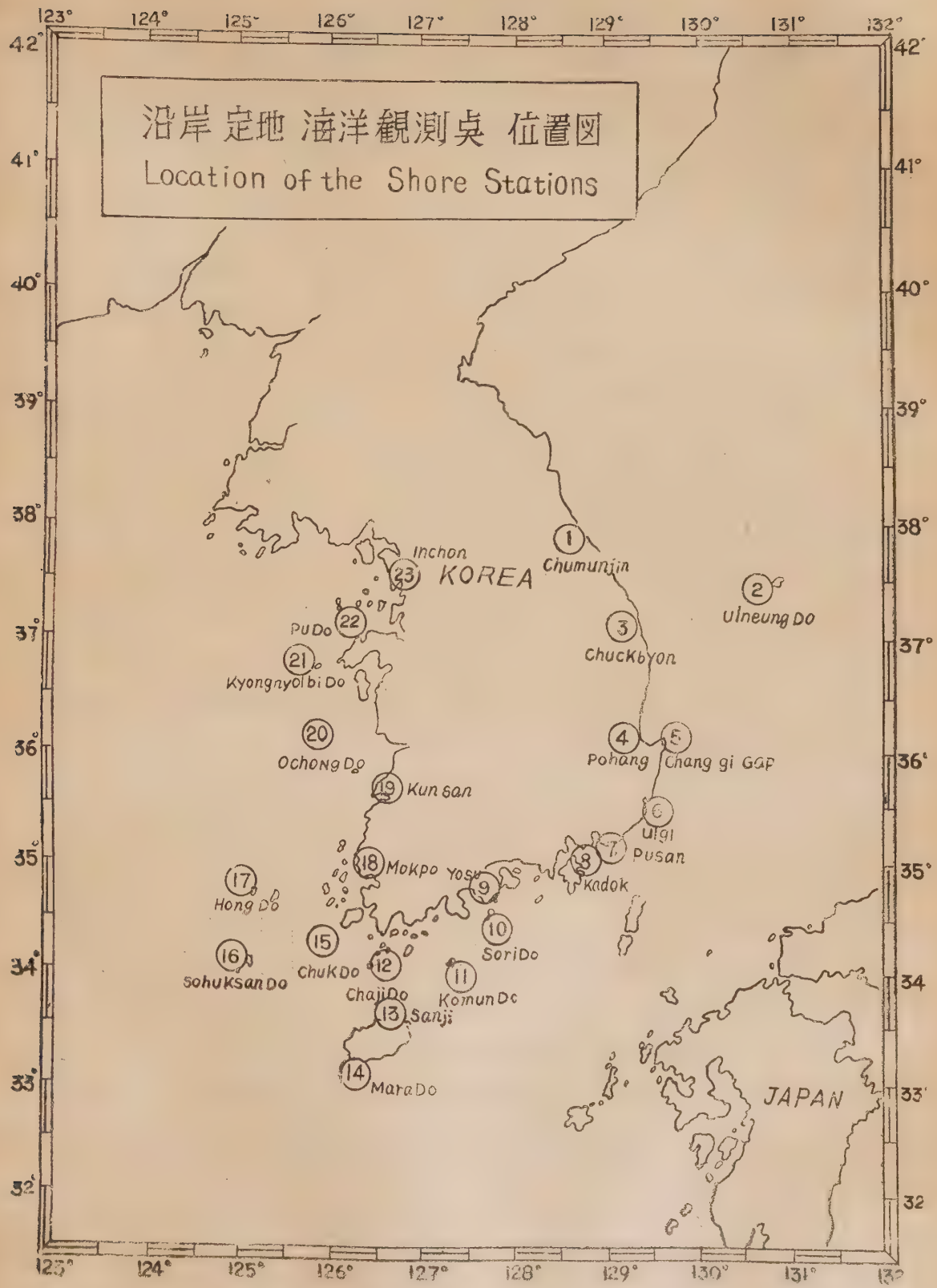
沿岸定地 海洋観測点 位置図
Location of the Shore Stations
123° 124° 125° 126° 127° 128° 129° 130° 131° 132°
42° 41° 40° 39° 38° 37° 36° 35° 34° 33° 32°
KOREA
JAPAN
1 Chumunjin
2 Ulneung Do
3 Chuckbyon
4 Pohang
5 Chang gi GAP
6 Ulgi
7 Pusan
8 Kadok
9 Yosu
10 Sori Do
11 Komun Do
12 Chaji Do
13 Sanji
14 Mara Do
15 Chuk Do
16 Sohuksan Do
17 Hong Do
18 Mokpo
19 Kun san
20 Ochong Do
21 Kyongnyol bi Do
22 Pu Do
23 Inchon

연안정지 해양관측점 위치표

Position of the Shore Stations.

해역 Region	번호 No.	관측지명 Name of Station	위치 Location		관측회수 Frequency of Obsevations	관측개시년 Date of Inauguration
			북위 Lat. (N)	동경 Long. (E)		
동해안 East Coast	①	주문진 Chumunjin	37°—53′	128°—50′	매일 Daily	1921
	②	울릉도 Ulneung-Do	37°—29′	130°—55′	매일 Daily	1931
	③	죽변만 Chukbyonman	37°—03′	129°—26′	매일 Daily	1916
	④	포항 Pohang	36°—03′	129°—26′	매일 Daily	1923
	⑤	장기갑 Changgigap	36°—05′	129°—35′	매일 Daily	1916
	⑥	울기 Ulgi	35°—29′	129°—27′	매일 Daily	1939
남해안 South Coast	⑦	부산 Pusan	35°—44′	129°—02′	매일 Daily	1921
	⑧	가덕도 Kadok-Do	34°—59′	128°—50′	매일 Daily	1930
	⑨	여수 Yosu	34°—44′	128°—44′	매일 Daily	1921
	⑩	소리도 Sori-Do	34°—24′	127°—48′	매일 Daily	1928
	⑪	거문도 Komun-Do	34°—51′	127°—19′	매일 Daily	1916
	⑫	자지도 Chaji-Do	34°—05′	126°—36′	매일 Daily	1928
	⑬	산지 Sanji	33°—31′	126°—33′	매일 Daily	1923
	⑭	마라도 Mara-Do	33°—07′	126°—16′	매일 Daily	1923
서해안 West Coast	⑮	죽도 Chuk-Do	34°—14′	125°—51′	매일 Daily	1916
	⑯	흑산도 Huksan-Do	34°—06′	125°—06′	매일 Daily	1925
	⑰	홍도 Hong-Do	34°—43′	125°—13′	매일 Daily	1938
	⑱	목포 Mokpo	34°—47′	126°—23′	매일 Daily	1928
	⑲	군산 Kunsan	35°—59′	126°—43′	매일 Daily	1939
	⑳	어청도 Ochung-Do	36°—07′	125°—59′	매일 Daily	1916
	㉑	격렬비도 Kyognyolbi-Do	36°—37′	125°—33′	매일 Daily	1916
	㉒	부도 Pu-Do	37°—09′	126°—21′	매일 Daily	1926
	㉓	인천 Inchon	37°—28′	126°—36′	매일 Daily	1938

연안정지 월별 표면수온

Surface Water Temperature at the Shore Stations.

월 Month	관측지명 Station / 순 Ten day	주문진 Chummun-jin	울능도 Ulneung Do	죽변 Chuk-byon	포항 Pohang	장기갑 Changigap	울기 Ulgi	부산 Pusan
1 월 Jan.	상 순 1st	4. 89	6. 43	—	8. 47	8. 19	7. 66	10. 18
	중 순 2nd	2. 60	5. 84	—	7. 08	5. 90	5. 49	9. 42
	하 순 3rd	1. 97	5. 53	—	5. 96	4. 82	4. 29	9. 80
	월평균 Mean	**2. 82**	**5. 93**	—	**7. 17**	**6. 30**	**5. 81**	**9. 80**
2 월 Feb.	상 순 1st	1. 23	6. 56	—	4. 87	5. 63	5. 26	9. 98
	중 순 2nd	1. 31	6. 09	—	5. 54	6. 85	8. 78	9. 25
	하 순 3rd	1. 27	5. 40	—	5. 76	6. 50	8. 10	9. 37
	월평균 Mean	**1. 27**	**6. 02**	—	**5. 39**	**6. 33**	**7. 38**	**9. 53**
3 월 Mar.	상 순 1st	1. 89	5. 30	—	6. 82	6. 79	10. 77	10. 14
	중 순 2nd	1. 43	5. 81	—	5. 96	6. 94	10. 87	10. 22
	하 순 3rd	3. 20	6. 11	—	7. 42	7. 43	11. 25	11. 07
	월평균 Mean	**2. 17**	**5. 74**	—	**6. 73**	**7. 05**	**10. 93**	**10. 48**
4 월 Apr.	상 순 1st	4. 80	8. 38	—	8. 33	9. 43	11. 40	11. 18
	중 순 2nd	5. 50	7. 85	—	9. 29	10. 82	16. 17	11. 86
	하 순 3rd	7. 08	9. 05	—	10. 62	11. 82	14. 55	12. 40
	월평균 Mean	**5. 79**	**8. 43**	—	**9. 41**	**10. 69**	**14. 05**	**11. 81**
5 월 May	상 순 1st	6. 79	10. 33	5. 79	12. 88	12. 85	17. 41	12. 93
	중 순 2nd	8. 76	11. 11	9. 82	13. 56	14. 52	17. 66	14. 23
	하 순 3rd	11. 08	11. 29	10. 63	15. 70	17. 01	18. 05	14. 78
	월평균 Mean	**8. 84**	**10. 91**	**8. 75**	**14. 05**	**14. 79**	**17. 71**	**13. 98**
6 월 Jun.	상 순 1st	17. 32	11. 33	10. 37	13. 39	12. 54	16. 98	15. 65
	중 순 2nd	18. 83	14. 51	12. 22	15. 67	15. 35	19. 00	17. 26
	하 순 3rd	20. 15	15. 34	14. 96	16. 82	17. 55	20. 56	18. 09
	월평균 Mean	**18. 77**	**13. 74**	**12. 53**	**15. 29**	**15. 15**	**18. 85**	**17. 00**
7 월 Jul.	상 순 1st	20. 00	11. 03	16. 51	19. 63	22. 02	23. 88	19. 22
	중 순 2nd	20. 05	16. 09	16. 98	18. 18	20. 63	26. 09	20. 42
	하 순 3rd	21. 41	18. 20	19. 21	18. 25	20. 17	25. 13	21. 38
	월평균 Mean	**20. 48**	**19. 55**	**17. 60**	**18. 69**	**20. 94**	**25. 00**	**20. 43**
8 월 Aug.	상 순 1st	22. 80	21. 52	20. 24	23. 17	21. 72	26. 82	24. 56
	중 순 2nd	23. 50	21. 23	21. 10	23. 43	23. 21	26. 60	24. 06
	하 순 3rd	23. 55	22. 14	19. 90	24. 16	23. 43	26. 12	23. 91
	월평균 Mean	**23. 28**	**21. 63**	**20. 41**	**23. 58**	**22. 82**	**26. 51**	**24. 18**
9 월 Sep.	상 순 1st	22. 70	22. 35	19. 93	22. 27	23. 57	24. 76	20 26
	중 순 2nd	22. 20	21. 78	20. 74	22. 49	22. 80	23. 92	23. 44
	하 순 3rd	20. 80	21. 09	20. 65	21. 13	23. 04	18. 56	21. 79
	월평균 Mean	**21. 90**	**21. 74**	**20. 44**	**21. 96**	**23. 14**	**22. 41**	**21. 83**
10월 Oct.	상 순 1st	18. 10	21. 86	—	19. 59	18. 76	16. 11	19. 83
	중 순 2nd	16. 60	20. 00	—	17. 74	18. 17	15. 96	19. 23
	하 순 3rd	15. 45	—	—	16. 83	18. 06	15. 90	18. 83
	월평균 Mean	**16. 72**	—	—	**18. 05**	**18. 33**	**15. 99**	**19. 29**
11월 Nov.	상 순 1st	15. 25	—	—	16. 76	17. 35	17. 37	17. 17
	중 순 2nd	13. 85	—	—	14. 26	13. 94	15. 81	15. 88
	하 순 3rd	11. 90	—	—	11. 52	12. 34	15. 31	14. 34
	월평균 Mean	**13. 67**	—	—	**14. 18**	**14. 54**	**16. 19**	**15. 79**
12월 Dec.	상 순 1st	11. 56	—	—	9. 67	11. 37	15. 42	13. 50
	중 순 2nt	10. 77	—	—	9. 32	11. 14	10. 84	13. 62
	하 순 3rd	9. 95	—	—	8. 30	9. 79	12. 88	12. 48
	월평균 Mean	**10. 79**	—	—	**9. 09**	**10. 77**	**13. 05**	**13. 20**
년 Year	**평 균 Mean**	**12. 21**	—	—	**13. 63**	**14. 24**	**15. 91**	**15. 61**

월 Month	관측지명 Station / 순 Ten day	가덕도 Kacok-Do	여수 Yosu	소리도 Sori-Do	거문도 Kommun-Do	제주 Jeju	자지도 Chaji-Do	산지 Sanji
1 월 Jan.	상순 1st	11. 43	6. 62	11. 39	12. 46	15. 73	11. 14	12. 11
	중순 2nd	10. 31	4. 29	11. 43	11. 16	14. 76	9. 46	18. 82
	하순 3rd	9. 74	2. 67	11. 52	9. 57	13. 59	8. 03	11. 43
	월평균 Mean	**10. 53**	**4. 53**	**11. 45**	**11. 06**	**14. 69**	**9. 54**	**11. 79**
2 월 Feb.	상순 1st	9. 56	2. 30	7. 59	10. 45	13. 75	10. 11	11. 13
	중순 2nd	9. 87	3. 30	7. 01	11. 49	13. 48	10. 68	11. 19
	하순 3rd	12. 31	4. 52	7. 50	11. 73	12. 90	9. 65	11. 53
	월평균 Mean	**10. 58**	**3. 37**	**7. 37**	**11. 22**	**13. 38**	**10. 15**	**11. 28**
3 월 Mar.	상순 1st	9. 68	5. 90	7. 88	11. 81	13. 15	9. 36	11. 89
	중순 2nd	9. 90	6. 61	9. 49	11. 94	12. 01	11. 30	12. 71
	하순 3rd	10. 68	8. 58	11. 70	11. 92	11. 96	12. 20	12. 98
	월평균 Mean	**10. 09**	**7. 02**	**9. 68**	**11. 92**	**12. 37**	**10. 92**	**12. 53**
4 월 Apr.	상순 1st	11. 26	10. 13	11. 35	11. 79	11. 43	11. 37	—
	중순 2nd	11. 53	10. 97	11. 80	11. 90	11. 75	11. 86	—
	하순 3rd	11. 98	11. 41	13. 45	11. 85	11. 65	12. 27	—
	월평균 Mean	**11. 59**	**10. 84**	**12. 20**	**11. 88**	**11. 61**	**11. 83**	—
5 월 May	상순 1st	13. 04	11. 76	13. 90	12. 30	13. 05	12. 90	15. 58
	중순 2nd	13. 49	13. 06	16. 01	12. 52	14. 41	13. 59	16. 48
	하순 3rd	13. 93	13. 63	17. 44	12. 99	14. 87	13. 97	17. 48
	월평균 Mean	**13. 49**	**12. 82**	**15. 78**	**12. 50**	**14. 11**	**13. 49**	**16. 51**
6 월 Jun.	상순 1st	16. 32	17. 28	18. 38	13. 87	16. 63	14. 23	19. 03
	중순 2nd	18. 64	18. 82	18. 68	14. 32	17. 78	15. 42	20. 46
	하순 3rd	19. 32	20. 15	18. 54	14. 42	17. 36	16. 96	22. 22
	월평균 Mean	**18. 09**	**18. 77**	**18. 53**	**14. 20**	**17. 26**	**15. 54**	**20. 57**
7 월 Jul.	상순 1st	19. 56	20. 11	18. 97	16. 33	18. 51	17. 63	23. 82
	중순 2nd	20. 07	20. 66	18. 88	18. 84	18. 08	18. 13	25. 13
	하순 3rd	20. 54	22. 06	20. 06	20. 88	22. 45	17. 79	26. 39
	월평균 Mean	**20. 05**	**20. 94**	**19. 30**	**18. 68**	**19. 68**	**17. 85**	**25. 11**
8 월 Aug.	상순 1st	23. 48	21. 89	22. 31	22. 67	26. 04	20. 12	26. 49
	중순 2nd	23. 10	22. 62	22. 41	24. 65	26. 14	20. 15	26. 86
	하순 3rd	21. 75	23. 19	23. 73	22. 96	24. 60	20. 30	26. 78
	월평균 Mean	**22. 78**	**22. 53**	**22. 82**	**23. 41**	**25. 59**	**20. 19**	**26. 71**
9 월 Sep.	상순 1st	20. 76	23. 05	23. 25	22. 72	23. 94	17. 46	25. 71
	중순 2nd	19. 95	22. 65	22. 71	23. 00	24. 70	21. 06	23. 70
	하순 3rd	19. 05	21. 43	22. 24	22. 11	24. 11	19. 92	21. 82
	월평균 Mean	**19. 92**	**22. 38**	**22. 73**	**22. 61**	**24. 25**	**19. 48**	**23. 41**
10월 Oct.	상순 1st	18. 55	19. 96	20. 39	20. 17	23. 83	17. 31	20. 84
	중순 2nd	18. 33	18. 95	21. 41	18. 67	23. 14	16. 94	20. 74
	하순 3rd	17. 85	17. 16	19. 66	18. 18	22. 42	16. 61	20. 11
	월평균 Mean	**18. 23**	**18. 69**	**20. 49**	**19. 00**	**23. 13**	**16. 95**	**20. 55**
11월 Nov.	상순 1st	17. 41	17. 10	20. 10	17. 12	21. 48	16. 02	19. 86
	중순 2nd	15. 64	15. 29	20. 92	17. 06	20. 76	15. 78	18. 85
	하순 3rd	15. 39	13. 22	21. 51	16. 13	19. 17	14. 65	17. 76
	월평균 Mean	**16. 19**	**15. 20**	**20. 84**	**16. 77**	**20. 47**	**15. 48**	**18. 82**
12월 Dec.	상순 1st	15. 09	10. 47	10. 63	15. 53	18. 17	14. 68	16. 59
	중순 2nd	14. 00	9. 77	11. 93	15. 47	17. 76	13. 20	15. 73
	하순 3rd	13. 57	8. 41	14. 11	15. 37	16. 86	13. 15	15. 15
	월평균 Mean	**14. 22**	**9. 55**	**12. 22**	**15. 46**	**17. 60**	**13. 68**	**15. 82**
년 Year	평균 Mean	15. 48	13. 88	16. 12	15. 89	17. 84	14. 59	—

마라도 Mara-Do	죽도 Chuhk-Do	흑산도 Huksan-Do	홍도 Hong-Do	목포 Mokpo	군산 Kunsan	어청도 Cchoung-Do	격렬비도 Kycknyolbi-Do	부도 Pu-Do
16. 37	10. 25	7. 33	9. 61	6. 98	1. 73	8. 56	8. 02	6. 15
14. 82	10. 79	6. 79	7. 68	4. 84	−0. 03	5. 76	7. 32	4. 05
14. 24	10. 16	1. 07	6. 86	2. 96	−1. 23	5. 23	6. 10	1. 59
15. 14	**10. 60**	**5. 03**	**8. 05**	**4. 93**	**0. 16**	**6. 52**	**7. 15**	**3. 93**
13. 51	9. 71	12. 20	6. 49	2. 18	−0. 16	4. 47	4. 99	0. 15
12. 93	8. 95	12. 73	6. 44	3. 76	2. 10	4. 15	4. 57	1. 05
12. 49	9. 91	12. 50	6. 35	4. 25	3. 19	4. 32	4. 25	1. 31
12. 98	**9. 56**	**12. 41**	**6. 43**	**3. 39**	**1. 52**	**4. 31**	**4. 60**	**0. 84**
12. 45	10. 25	12. 29	6. 42	5. 79	4. 63	4. 64	5. 61	2. 05
11. 77	9. 20	12. 33	6. 82	7. 55	7. 03	5. 00	7. 50	3. 22
11. 15	9. 95	12. 43	7. 66	9. 29	9. 70	5. 43	8. 01	4. 36
11. 79	**9. 80**	**12. 35**	**6. 97**	**7. 54**	**7. 12**	**5. 02**	**7. 04**	**3. 21**
10. 79	9. 60	11. 89	8. 83	10. 45	11. 20	6. 72	9. 15	5. 95
11. 21	11. 87	12. 27	9. 91	12. 53	12. 94	8. 43	10. 94	7. 10
10. 52	11. 87	12. 48	10. 79	13. 44	13. 18	8. 59	12. 71	8. 20
10. 82	**11. 11**	**12. 21**	**9. 81**	**12. 47**	**12. 44**	**7. 91**	**10. 93**	**7. 08**
12. 14	12. 93	12. 51	11. 46	14. 60	15. 92	8. 94	13. 03	8. 99
14. 50	14. 42	14. 16	12. 17	15. 55	17. 20	9. 69	13. 92	10. 49
15. 44	14. 33	14. 64	13. 27	18. 00	19. 20	12. 67	15. 50	11. 38
14. 03	**13. 89**	**13. 77**	**12. 27**	**16. 05**	**17. 41**	**10. 43**	**14. 15**	**10. 28**
15. 95	16. 34	15. 01	15. 01	19. 35	20. 74	14. 34	15. 75	13. 68
16. 88	18. 43	16. 24	17. 50	20. 41	22. 17	14. 25	18. 80	15. 02
18. 06	17. 32	17. 54	17. 83	20. 68	22. 25	17. 87	19. 15	16. 22
16. 96	**17. 58**	**16. 26**	**16. 78**	**20. 02**	**21. 72**	**15. 42**	**17. 90**	**14. 97**
19. 00	17. 26	17. 33	19. 56	22. 04	24. 42	18. 63	20. 64	18. 61
22. 65	17. 36	18. 37	19. 45	22. 34	26. 24	20. 69	22. 50	19. 12
24. 45	21. 70	19. 75	21. 72	24. 55	24. 40	22. 60	24. 18	21. 00
22. 03	**18. 74**	**18. 48**	**20. 31**	**22. 58**	**25. 02**	**21. 31**	**22. 44**	**19. 58**
24. 85	22. 52	23. 42	20. 55	25. 86	29. 44	23. 17	25. 90	23. 43
26. 12	25. 24	24. 00	22. 20	26. 30	29. 46	24. 74	27. 70	24. 04
25. 58	22. 78	24. 51	22. 14	24. 85	26. 97	23. 33	26. 50	24. 11
25. 52	**23. 49**	**23. 98**	**21. 63**	**25. 67**	**28. 62**	**23. 75**	**26. 73**	**23. 86**
25. 22	21. 52	22. 66	21. 95	24. 98	26. 00	21. 25	25. 00	24. 19
25. 00	20. 10	23. 01	22. 25	23. 11	24. 60	21. 01	22. 75	23. 46
23. 81	20. 43	22. 61	22. 15	21. 64	22. 22	19. 39	21. 80	21. 97
24. 68	**20. 68**	**22. 76**	**22. 17**	**23. 24**	**24. 61**	**20. 53**	**23. 18**	**23. 21**
22. 19	17. 34	20. 12	20. 85	20. 43	19. 46	—	19. 07	20. 47
22. 27	16. 87	19. 26	19. 06	18. 98	17. 76	—	18. 12	18. 90
22. 14	15. 56	18. 00	17. 47	17. 26	16. 28	—	17. 14	17. 27
22. 17	**16. 59**	**19. 13**	**19. 13**	**18. 89**	**17. 83**	—	**18. 11**	**18. 88**
21. 31	14. 96	17. 12	16. 73	16. 77	14. 89	—	16. 20	16. 77
19. 98	12. 74	15. 87	14. 58	14. 95	12. 02	—	15. 46	15. 67
18. 74	13. 02	10. 41	13. 79	13. 32	9. 74	—	14. 91	14. 01
20. 01	**13. 57**	**14. 47**	**15. 03**	**15. 01**	**12. 23**	—	**15. 52**	**15. 48**
17. 85	10. 50	9. 70	11. 44	10. 90	7. 70	—	11. 38	10. 81
17. 44	9. 21	8. 54	10. 88	10. 02	6. 08	—	10. 80	9. 96
16. 64	6. 50	7. 91	10. 63	8. 82	4. 95	—	9. 61	8. 22
17. 31	**8. 74**	**8. 72**	**10. 97**	**9. 91**	**6. 24**	—	**10. 59**	**9. 66**
17. 88	**14. 53**	**15. 46**	**14. 13**	**15. 00**	**14. 58**	—	**14. 89**	**12. 58**

연안정지 월별 표면수비중

Surface Water Density at the Shore Stations.

월 Month	순 Ten day	부산 Pusan	제주 Jeju	월 Month	순 Ten day	부산 Pusan	제주 Jeju
1 월 Jan.	상 순 1st	24. 98	24. 45	7 월 Jul.	상 순 1st	20. 12	22. 20
	중 순 2nd	25. 08	25. 67		중 순 2nd	20..51	22. 57
	하 순 3rd	25. 37	25. 52		하 순 3rd	18. 18	21. 49
	월평균 Mean	**25. 11**	**25. 55**		**월평균 Mean**	**19. 81**	**22. 09**
2 월 Feb.	상 순 1st	25. 85	25. 66	8 월 Aug.	상 순 1st	21. 20	20. 79
	중 순 2nd	25. 71	25. 67		중 순 2nd	22. 38	20. 80
	하 순 3rd	25. 33	25. 69		하 순 3rd	22. 89	20. 87
	월평균 Mean	**25. 63**	**25. 67**		**월평균 Mean**	**22. 16**	**20. 82**
3 월 Mar.	상 순 1st	25. 55	25. 68	9 월 Sep.	상 순 1st	24. 90	22. 32
	중 순 2nd	25. 37	24. 81		중 순 2nd	23. 20	23. 10
	하 순 3rd	25. 33	25. 03		하 순 3rd	23. 43	23. 93
	월평균 Mean	**25. 42**	**25. 17**		**월평균 Mean**	**23. 84**	**23. 14**
4 월 Apr.	상 순 1st	25. 12	24. 93	10월 Oct.	상 순 1st	23. 77	24. 41
	중 순 2nd	24. 87	24. 32		중 순 2nd	24. 31	24. 77
	하 순 3rd	24. 71	24. 24		하 순 3r	24. 59	24. 81
	월평균 Mean	**24. 90**	**24. 50**		**월평균 Mean**	**24. 22**	**24. 66**
5 월 May	상 순 1st	24. 34	24. 32	11월 Nov.	상 순 1st	24. 77	24. 70
	중 순 2nd	23. 70	23. 55		중 순 2nd	24. 67	24. 94
	하 순 3rd	24. 20	22. 52		하 순 3rd	24. 86	25. 22
	월평균 Mean	**24. 08**	**23. 46**		**월평균 Mean**	**24. 77**	**24. 96**
6 월 Jun.	상 순 1st	23. 89	23. 25	12월 Dec.	상 순 1st	25. 05	25. 23
	중 순 2nd	23. 29	22. 39		중 순 2nd	25. 08	25. 14
	하 순 3rd	17. 76	22. 50		하 순 3rd	25. 38	25. 42
	월평균 Mean	**21. 65**	**22. 70**		**월평균 Mean**	**25. 17**	**25. 26**

제 2 편

횡단정선 해양관측성적

PART 2

SECTIONAL OCEANOGRAPHIC OBSERVATIONS

1963

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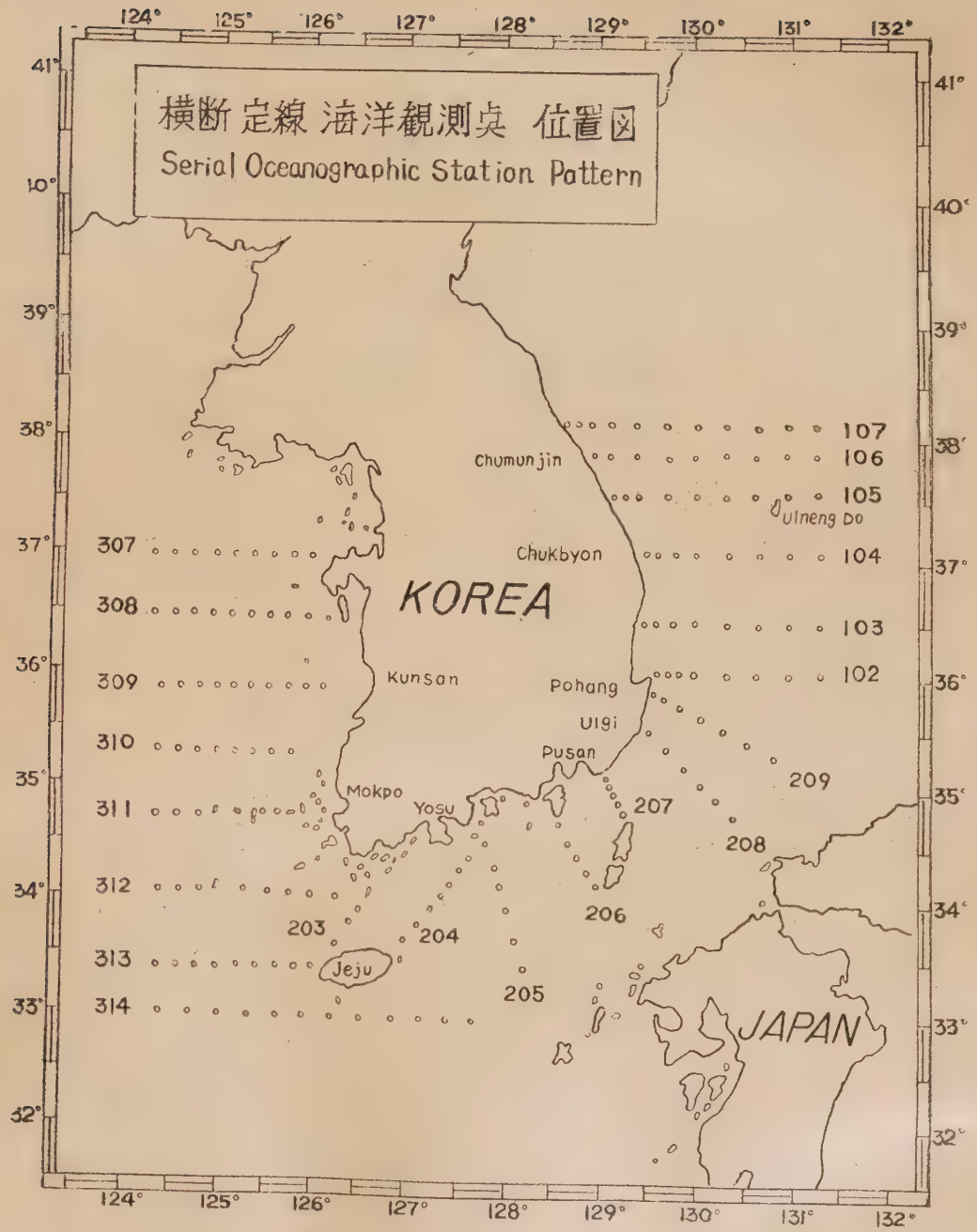
横断定線海洋観測点 位置図
Serial Oceanographic Station Pattern
124°
125°
126°
127°
128°
129°
130°
131°
132°
41°
40°
39°
38°
37°
36°
35°
34°
33°
32°
KOREA
JAPAN
Chumunjin
Ulneng Do
Chukbyon
Kunsan
Pohang
Ulgi
Pusan
Mokpo
Yosu
Jeju
307
308
309
310
311
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314
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107
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209

횡단정선 해양관측점 위치표

Position of the Serial Oceanographic Stations.

Lines \ Sta.No.	01	02	03	04	05	06	07	08	09	10	11
107	38°13′ 128°39′	38°13′ 128°43′	38°13′ 123°51′	38°13′ 129°04′	38°13′ 129°23′	38°13′ 129°41′	38°13′ 130°00′	38°13′ 130°19′	38°13′ 130°38′	38°13′ 130°56′	38°13′ 131°16′
106		37°54′ 128°52′	37°54′ 128°57′	37°54′ 129°04′	37°54′ 129°22′	37°54′ 129°41′	37°54′ 130°00′	37°54′ 130°19′	37°54′ 130°38′	37°54′ 130°56′	37°54′ 131°15
105			37°33′ 129°10′	37°33′ 129°15′	37°33′ 129°22′	37°33′ 129°41′	37°33′ 130°00′	37°33′ 130°10′	37°33′ 130°37′	37°33′ 130°56′	37°33′ 131°16′
104				37°03′ 129°29′	37°03′ 129°34′	37°03′ 129°47′	37°03′ 130°00′	37°03′ 130°19′	37°03′ 130°37′	37°03′ 130°55′	37°03′ 131°14′
103				36°30′ 129°30′	36°30′ 129°35′	36°30′ 129°48′	36°30′ 130°00′	36°30′ 130°19′	36°30′ 130°37′	36°30′ 130°55′	36°30′ 131°14′
102				36°05′ 129°37′	36°05′ 129°42′	36°05′ 129°48′	36°05′ 130°00′	36°05′ 130°19′	36°05′ 130°37′	36°05′ 130°55′	36°05′ 131°14′
209				35°47′ 129°33′	35°45′ 129°39′	35°41′ 129°50′	35°37′ 130°01′	35°31′ 130°17′	35°24′ 130°34′	35°18′ 130°51′	
208	35°28′ 129°27′	35°24′ 129°34′	35°18′ 129°44′	35°11′ 129°53′	35°05′ 130°02′	34°58′ 130°12′	34°52′ 130°21′	34°46′ 130°31′			
207	35°01′ 129°07′	34°58′ 129°11′	34°54′ 129°15′	34°50′ 129°20′	34°46′ 129°24′						
206	34°35′ 128°34′	34°30′ 128°41′	34°23′ 128°50′	34°15′ 128°58′	34°08′ 129°06′						
205	34°23′ 127°49′	34°15′ 127°53′	34°06′ 127°57′	33°52′ 128°03′	33°38′ 123°09′						
204	34°21′ 127°44′	34°14′ 127°36′	34°07′ 127°27′	33°54′ 127°15′	33°45′ 127°09′	33°36′ 127°03′	33°21′ 126°58′	33°11′ 126°58′			
203	33°58′ 126°31′	33°49′ 126°25′	33°36′ 126°16′	33°23′ 126°07′	33°10′ 125°58′						
314	33°00′ 127°41′	33°00′ 127°23′	33°00′ 127°05′	33°00′ 126°48′	33°00′ 126°30′	33°00′ 126°12′	33°00′ 125°54′	33°00′ 125°36′	33°00′ 125°18′	33°00′ 125°00′	
313		33°24′ 126°00′	33°24′ 125°48′	33°24′ 125°36′	33°24′ 125°24′	33°24′ 125°12′	33°24′ 125°00′	33°24′ 124°48′	33°24′ 124°36′	33°24′ 124′ 24′	33°24′ 124°12′
312		33°59′ 126°06′	34°00′ 125°54′	34°02′ 125°42′	34°03′ 125°30′	34°05′ 125°18′	34°05′ 125°00′	34°05′ 124°48′	34°05′ 124°36′	34°05′ 124°23′	34°05′ 124°11′
311				34°43′ 125°43′	34°43′ 125°31′	34°43′ 125°19′	34°43′ 125°00′	34°43′ 124°48′	34°43′ 124°36′	34°43′ 124°23′	34°43′ 124°11′
310			35°20′ 125°48′	35°20′ 125°36′	35°20′ 125°24′	35°20′ 125°12′	35°20′ 125°00′	35°20′ 124°48′	35°20′ 124°36′	35°20′ 124°24′	35°20′ 124°12′
309	35°51′ 126°14′	35°51′ 126°01′	35°51′ 125°49′	35°51′ 125°37′	35°51′ 125°25′	35°51′ 125°12′	35°51′ 125°00′	35°51′ 124°48′	35°51′ 124°36′	35°51′ 124°23′	35°51′ 124°11′
308	36°19′ 126°13′	36°19′ 126°02′	36°19′ 125°50′	36°19′ 125°37′	36°19′ 125°25′	36°19′ 125°13′	36°19′ 125°00′	36°19′ 124°48′	36°19′ 124°35′	36°19′ 124°23′	36°19′ 124°11′
307			36°57′ 126°00′	36°56′ 125°38′	36°55′ 125°25′	36°56′ 125°13′	36°56′ 125°00′	36°56′ 124°47′	36°56′ 124°35′		
306			37°00′ 126°16′	37°00′ 126°03′	37°00′ 125°50′	37°00′ 125°38′	37°00′ 125°25′	37°00′ 125°13′	37°00′ 125°00′		

동 해 해 양 조 사 성 적

OCEANOGRAPHIC OBSERVATIONS
EASTERN WATERS

1963

A. 105선 해양관측성적

Oceanographic Data, Line 105

Date		① May 1963						
Sta. No.		03	04	05	06	07	08	09
Day		5	5	5	5	5	5	5
Item	Time / Z(m)	1035	1205	1350	1543	1805	2004	2230
T °C	0	4.60	6.30	7.90	8.50	8.40	8.40	8.00
	10	4.04	5.55	6.75	7.56	7.38	7.67	7.12
	25	3.66	4.26	6.42	6.68	7.18	7.45	7.42
	50	1.80	4.31	2.71	3.37	4.18	4.25	4.13
	100	1.60	1.93	1.92	2.15	2.67	2.95	3.76
	150	—	1.28	1.72	1.85	2.22	2.19	3.17
	200	—	—	1.62	1.48	1.77	1.78	2.09
	300	—	—	1.26	—	—	—	—
	Botm.	—	1.25	—	—	—	—	—
S ‰	0	33.93	33.91	33.86	33.80	33.84	33.77	33.77
	10	33.91	33.86	33.84	33.78	33.82	33.84	33.78
	25	33.95	33.91	33.86	33.82	33.95	33.82	33.78
	50	34.12	33.95	33.91	33.87	33.80	33.95	33.89
	100	34.07	34.07	34.02	24.11	33.95	33.91	33.91
	150	—	34.04	34.05	34.09	33.96	34.02	33.95
	200	—	—	34.11	34.11	34.02	34.11	34.04
	300	—	—	34.69	—	—	—	—
	Botm.	—	34.07	—	—	—	—	—
Depth (m)		100	175	—	—	—	—	—
Secchi (m)		16	12	10	16	15	—	—
Color		3	3	3	3	3	—	—
Sea		2	2	2	2	2	2	2
Swell		1	1	1	1	1	1	1
Air Temp. (°C)		11.1	13.9	11.7	11.7	10.0	10.0	10.0
Baro. (mm)		—	—	—	—	—	—	—
Wind		NW. 4	NW. 5	NE. 3	E. 4	SE. 4	E. 8	E. 4
Cloud		Ci. 1	Ci. 1	Ci. 6	Ci. 8	Ci. 9	9	—
Weather		B	B	BC	C	C	C	C

Date		② July 1963					
Sta. No.		03	04	05	06	07	08
Day		18	18	18	18	18	18
Item	Time / Z(m)	1340	1250	1200	1010	0815	0630
T °C	0	19.70	19.80	19.50	20.00	19.00	20.00
	10	15.29	15.61	17.43	19.34	17.84	20.9
	25	7.11	7.09	7.90	7.64	12.09	17.36
	50	—	4.07	4.46	4.31	4.59	6.65
	100	—	2.35	2.05	2.23	2.03	2.37
	150	—	—	1.49	1.49	1.47	1.53
	200	—	—	1.28	1.33	1.09	1.12
	300	—	—	1.01	0.89	0.60	0.61
	Botm.	3.85	1.99	—	—	—	—
S ‰	0	32.74	32.81	32.95	32.92	32.97	32.79
	10	33.46	33.46	33.03	32.99	33.22	33.10
	25	33.80	33.84	33.80	33.80	33.21	33.50
	50	—	33.89	33.93	33.93	33.84	34.00
	100	—	33.9	34.00	34.00	34.05	34.02
	150	—	—	34.02	34.02	34.05	34.04
	200	—	—	34.05	34.04	34.09	34.07
	300	—	—	34.07	34.09	34.20	34.07
	Botm.	33.80	34.02	—	—	—	—
Depth (m)		54	155	—	—	—	—
Secchi (m)		15	17	19	21	14	25
Color		—	—	—	—	—	—
Sea		6	6	6	6	5	6
Swell		3	3	3	3	3	3
Air Temp. (°C)		22.0	22.5	23.5	21.0	20.5	21.0
Baro. (mm)		766	767	768	768	767	766
Wind		SW. 5	SW. 6	SW. 5	SW. 3	SW. 3	SE. 4
Cloud		Cs. 9	St. 8	Cs. 9	Cs. 9	St. 10	St. 10
Weather		C	C	C	C	C	R

③ August 1963

03	04	05	06	07	08	09
18	18	18	18	18	18	18
0618	0645	0745	1000	1200	1408	1600
23. 20	23. 40	24. 40	24. 50	23. 00	23. 00	23. 00
23. 17	22. 40	22. 36	19. 59	16. 82	22. 17	23. 17
17. 19	15. 65	10. 83	5. 18	7. 65	9. 53	13. 84
—	14. 84	6. 16	2. 43	3. 73	3. 00	9. 75
—	7. 00	3. 07	1. 63	1. 85	2. 21	3. 94
—	1. 99	2. 84	1. 55	1. 57	1. 42	1. 89
—	—	1. 76	1. 37	1. 11	1. 13	1. 24
—	—	1. 54	1. 08	0. 67	0. 54	0. 62
15. 95	3. 36	—	—	—	—	—
32. 11	32. 54	32. 54	32. 72	32. 63	32. 43	32. 14
32. 43	32. 95	33. 24	32. 79	33. 17	32. 54	32. 18
33. 17	33. 51	33. 68	33. 84	33. 91	32. 27	34. 13
—	33. 60	33. 86	33. 96	34. 00	34. 15	34. 40
—	33. 86	33. 84	34. 02	34. 04	34. 04	34. 20
—	33. 93	33. 95	34. 02	34. 05	34. 05	34. 04
—	—	—	34. 04	34. 04	34. 05	34. 04
—	—	34. 04	34. 04	34. 05	34. 05	34. 07
33. 44	33. 93	—	—	—	—	—
51	178	—	—	—	—	—
15	17	20	21	21	19	22
—	—	—	—	—	—	—
4	5	5	5	5	5	6
2	3	3	3	3	3	3
23. 3	23. 7	25. 9	25. 1	26. 8	26. 5	25. 6
760. 5	761	760	760. 5	760	760	760
E. 4	E. 6	E. 4	E. 3	E. 4	E. 3	E. 4
Ci. 5	Ci. 6	Cs. 6	St. 5	Ci. 5	Ci. 4	Ci. 5
BC	BC	BC	BC	BC	BC	BC

B. 104선 해양관측성적

Oceanographic Data, Line 104

Date		① May 1963						
Sta. No.		04	05	06	07	08	09	10
Day		6	6	6	6	6	6	6
Item	Time / Z(m)	1250	1145	1010	0908	0635	0410	0210
T °C	0	10.00	11.00	11.10	10.10	11.60	12.60	8.10
	10	9.62	10.44	10.80	10.08	8.25	12.61	7.79
	25	6.78	9.59	10.31	9.78	7.37	12.13	7.31
	50	2.52	3.52	7.60	4.23	6.54	9.91	3.64
	100	1.70	1.80	3.14	1.97	2.50	4.50	2.50
	150	—	1.61	1.76	1.78	2.16	2.24	2.05
	200	—	1.32	1.36	1.64	1.66	1.59	1.29
	300	—	—	—	—	—	—	—
	Botm.	—	—	—	—	—	—	—
S ‰	0	34.33	34.38	34.33	34.33	33.75	34.38	33.82
	10	34.29	34.40	34.34	34.31	33.78	34.38	33.82
	25	34.18	34.36	34.31	34.29	33.80	34.25	33.86
	50	34.11	34.11	34.27	33.95	33.78	34.56	33.86
	100	34.13	34.11	34.02	34.02	33.95	34.04	33.95
	150	—	34.16	34.04	34.02	34.02	34.04	34.04
	200	—	34.11	34.07	34.02	34.04	34.11	34.13
	300	—	—	—	—	—	—	—
	Botm.	—	—	—	—	—	—	—
Depth (m)		100	200	—	—	—	—	—
Secchi (m)		17	21	17	20	15	—	—
Color		3	3	3	2	3	—	—
Sea		3	2	—	1	2	2	2
Swell		1	1	1	1	1	1	1
Air Temp. (°C)		11.7	12.8	12.8	12.2	10.0	12.2	10.6
Baro. (mm)		—	—	—	—	—	—	—
Wind		E. 3	E. 3	SW. 3	SE. 1	SE. 2	E. 2	S. 1
Cloud		Cc. 8	Cc. 6	Sc. 9	Sc. 10	Cs. 10	—	—
Weather		C	BC	C	C	C	BC	BC

② August 1963

04	05	06	07	08	09	10
20	20	20	20	19	19	19
0555	0330	0200	0030	2200	2000	1805
23. 10	22. 70	22. 50	22. 50	22. 80	22. 90	23. 00
23. 09	22. 64	13. 51	17. 59	14. 86	18. 93	22. 91
19. 45	9. 27	5. 69	21. 58	5. 71	12. 43	15. 09
14. 20	4. 02	3. 38	8. 03	1. 78	10. 09	10. 85
—	2. 23	2. 02	2. 96	1. 40	2. 60	7. 27
—	1. 66	1. 53	2. 56	0. 96	1. 70	2. 27
—	—	1. 18	1. 88	0. 56	1. 72	1. 61
—	—	0. 77	1. 42	—	0. 78	0. 87
10. 49	1. 28	—	—	—	—	—
32. 45	32. 57	32. 68	32. 63	32. 85	34. 33	32. 27
32. 45	33. 93	33. 84	33. 01	33. 40	33. 06	32. 90
33. 08	33. 93	33. 86	33. 86	33. 91	33. 77	33. 51
33. 50	33. 95	33. 86	33. 95	33. 95	34. 36	34. 25
—	33. 95	34. 05	33. 96	33. 56	34. 02	34. 22
—	34. 95	34. 05	34. 02	34. 02	—	34. 05
—	—	34. 11	—	34. 04	34. 13	34. 04
—		—	34. 02	34. 04	34. 13	34. 05
—	—	—	—	—	—	—
—	199	—	—	—	—	—
14	—	—	—	—	—	16
—	—	—	—	—	—	—
5	5	6	6	6	5	5
3	3	3	3	3	3	3
22. 5	22. 9	23. 0	22. 1	23. 0	23. 5	24. 0
767	767	767	766. 5	766	766	765. 5
NW. 3	NW. 3	NW. 4	NW. 4	NW. 4	NW. 4	NW. 4
St. 6	Cu. 2	Cu. 3	Cc. 3	Ci. 4	Ci. 3	Cu. 2
BC	B	BC	BC	BC	BC	6

C. 103선 해양관측성적

Oceanographic Data, Line 103

Date		① May 1963						
Sta. No.		04	05	06	07	08	09	10
Day		6	6	6	6	6	7	7
Item	Time / Z(m)	1617	1720	1835	2015	2250	0050	0315
T °C	0	10.70	11.50	13.30	13.50	13.50	9.90	11.00
	10	9.16	11.04	13.09	12.99	13.10	8.57	10.29
	25	5.41	10.19	11.59	12.24	12.37	8.24	9.80
	50	2.48	4.08	6.27	11.79	11.37	4.82	7.42
	100	1.72	1.58	1.87	8.57	10.09	2.98	3.79
	150	—	1.36	1.59	2.07	5.37	2.29	2.44
	200	—	—	1.32	1.83	1.96	1.79	2.06
	300	—	—	—	—	—	—	—
	Botm.	—	1.22	—	—	—	—	—
S ‰	0	34.38	34.47	34.13	33.98	33.93	33.86	34 33
	10	34.29	34.47	34.11	34.00	33.95	33.89	34.16
	25	34.20	34.48	34.25	34.09	34.11	33.93	34.20
	50	34.15	34.27	34.46	34.52	34.54	33.93	34.20
	100	34.16	34.11	34.09	34.45	34.52	33.95	33.98
	150	—	34.11	34.09	34.02	34.18	34.04	33.98
	200	—	—	34.11	34.02	34.07	34.09	33.98
	300	—	—	—	—	—	—	—
	Botm.	—	34.16	—	—	—	—	—
Depth (m)		100	190	—	200	200	200	—
Secchi (m)		16	15	9	—	—	—	—
Color		3	3	3	—	—	—	—
Sea		2	2	3	2	2	1	1
Swell		1	1	1	1	1	—	—
Air Temp. (°C)		14.4	12.8	13.3	13.3	12.8	10.6	11.1
Baro. (mm)		—	—	—	—	—	—	—
Wind		N. 2	N. 3	N. 4	N. 3	N. 2	0	0
Cloud		St. 4	St. 5	St. 7	8	7	F. 10	8
Weather		BC	BC	BC	C	BC	C	C

② July 1963

04	05	06	07	04′	07′
14	14	14	14	14	14
0835	0935	1015	1130	1335	1520
17. 70	19. 70	20. 20	19. 80	19. 20	16. 00
16. 58	17. 68	16. 80	19. 46	17. 17	15. 19
9. 31	8. 59	7. 99	10. 79	8. 97	7. 46
—	8. 49	3. 41	5. 80	3. 29	2. 96
—	2. 66	1. 96	2. 57	—	1. 94
—	—	1. 75	2. 06	—	1. 53
—	—	1. 23	1. 44	—	—
—	—	0. 47	0. 69	—	—
9. 06	2. 27	—	—	2. 28	1. 28
32. 76	32. 60	32. 79	33. 12	32. 74	33. 22
33. 12	32. 95	33. 37	33. 17	32. 85	33. 30
33. 64	33. 82	33. 91	33. 68	33. 77	33. 82
—	33. 87	33. 91	33. 82	33. 84	33. 86
—	33. 93	34. 00	33. 86	—	33. 96
—	—	34. 02	33. 98	—	—
—	—	34. 02	34. 00	—	—
—	—	34. 05	34. 00	—	—
33. 80	33. 95	—	—	33. 96	33. 98
52	120	—	—	81	188
15	16	17	10	11	13
—	—	—	—	—	—
4	5	5	5	5	5
2	2	3	3	2	3
24. 0	24. 5	24. 5	24. 5	24. 0	22. 5
765	765	765	765	764. 5	764
NE. 2	NE. 2	S. 3	S. 3	S. 4	S. 3
Ac. 5	Cu. 7	Ci. 6	Cs. 5	Ci. 7	Cc. 8
BC	BC	BC	BC	BC	C

Date		③ August 1963						
Sta. No.		04	05	06	07	08	09	10
Day		20	20	20	20	20	20	20
Item	Time / Z(m)	0930	1010	1120	1250	1430	1605	1820
T °C	0	22.60	24.10	24.40	23.40	23.50	23.00	23.50
	10	22.43	23.02	23.96	17.25	18.16	22.95	21.03
	25	18.04	15.16	13.88	9.84	7.86	18.96	9.98
	50	14.40	12.87	6.33	6.63	3.09	7.01	5.75
	100	—	9.25	2.23	2.01	2.12	2.60	2.10
	150	—	2.39	—	1.57	1.59	1.74	1.37
	200	—	—	—	1.28	1.23	1.24	0.87
	300	—	—	—	1.18	0.61	0.58	0.47
	Botm.	10.32	1.66	2.25	—	—	—	—
S ‰	0	32.41	32.41	32.47	32.59	32.43	32.18	32.16
	10	32.54	32.70	32.28	33.50	32.97	32.29	32.52
	25	33.15	33.19	33.60	33.68	33.86	32.32	33.77
	50	33.50	33.60	33.77	33.78	33.86	33.91	—
	100	—	33.69	33.89	33.95	33.93	33.96	34.02
	150	—	33.93	—	33.95	33.95	33.96	34.04
	200	—	—	—	33.96	34.00	34.00	34.05
	300	—	—	—	33.96	34.02	34.02	34.13
	Botm.	33.66	33.95	33.93	—	—	—	—
Depth (m)		—	171	117	—	—	—	—
Secchi (m)		15	21	22	18	20	23	22
Color		—	—	—	—	—	—	—
Sea		5	5	5	5	5	5	5
Swell		3	3	3	3	3	3	3
Air Temp. (°C)		23.8	25.7	24.9	24.0	24.0	23.7	23.5
Baro. (mm)		768	768	769	768	768	768	767
Wind		NE. 3	NE. 3	NE. 3	NE. 3	NE. 4	NW. 4	NE. 3
Cloud		Cu. 6	Ct. 5	Ct. 8	St. 6	Cs. 7	Cs. 8	St. 8
Weather		BC	BC	C	BC	BC	C	C

D. 102선 해양관측성적

Oceanographic Data, Line 102

Date		① April 1963				
Sta. No.		04	05	06	07	08
Day		3	3	3	3	3
Item	Time / Z(m)	0550	0645	0745	0935	1143
T °C	0	8.20	10.20	11.00	11.10	8.70
	10	8.06	9.47	10.40	10.63	8.57
	25	7.85	9.20	10.29	10.54	8.45
	50	—	4.06	10.23	10.38	8.37
	100	—	2.17	6.10	10.21	8.23
	150	—	—	2.31	3.18	7.85
	200	—	—	1.89	2.18	3.27
	300	—	—	1.28	1.24	2.62
	Botm.	7.81	1.76	—	—	—
S ‰	0	34.29	34.60	34.74	34.60	34.29
	10	34.24	34.51	34.15	34.58	34.29
	25	34.25	34.51	33.98	33.96	34.33
	50	—	34.05	34.52	33.96	34.24
	100	—	33.96	34.60	33.96	34.25
	150	—	—	33.95	34.56	34.20
	200	—	—	33.96	34.54	34.11
	300	—	—	33.96	34.54	34.13
	Botm.	34.31	34.65	—	—	—
Depth (m)		40	134	—	—	—
Secchi (m)		—	5	11	11	13
Color		—	—	—	—	—
Sea		3	3	2	4	4
Swell		1	1	1	2	2
Air Temp. (°C)		8.0	8.0	8.0	9.5	11.0
Baro. (mm)		776	776	776	774	773
Wind		W. 3	W. 2	W. 2	SW. 3	SW. 3
Cloud		—	Ci. 3	Cs. 9	Cs. 8	Cs. 10
Weather		C	BC	C	C	C

Date		② May 1963					
Sta. No.		04	06	07	08	09	10
Day		7	7	7	7	7	7
Item	Time / Z (m)	1520	1400	1230	1030	0815	0556
T °C	0	13.20	13.50	13.00	13.60	13.00	11.20
	10	12.50	12.75	12.23	12.77	12.73	10.29
	25	10.82	12.11	11.86	12.11	11.48	9.48
	50	5.47	11.59	11.70	11.75	9.25	6.61
	100	—	10.40	10.54	9.36	7.28	3.36
	150	—	4.12	8.16	5.59	2.26	2.26
	200	—	1.94	3.42	3.12	1.88	1.40
	300	—	—	—	—	—	—
	Botm.	—	—	—	—	—	—
S ‰	0	33.96	33.86	34.27	34.29	34.24	34.13
	10	33.98	33.93	34.54	34.27	34.29	34.15
	25	34.29	34.29	34.56	34.45	34.31	34.15
	50	34.24	34.54	34.56	34.51	34.29	34.11
	100	—	34.56	34.65	34.49	34.27	34.09
	150	—	34.02	34.34	34.09	34.00	34.11
	200	—	34.00	33.96	33.87	34.04	34.24
	300	—	—	—	—	—	—
	Botm.	—	—	—	—	—	—
Depth (m)		54	—	—	200	—	200
Secchi (m)		6	15	17	11	12	16
Color		3	3	3	3	3	3
Sea		3	3	2	1	1	0
Swell		1	1	1	1	1	0
Air Temp. (°C)		14.4	13.9	13.4	12.8	12.2	11.1
Baro. (mm)		—	—	—	—	—	—
Wind		SE. 4	SE. 3	SE. 2	E. 1	SE. 1	0
Cloud		Sc. 4	Sc. 3	Sc. 10	F. 10	F. 10	Ci. 1
Weather		BC	BC	C	C	C	B

③ July 1963				④ August 1963	
04	05	06	07	04	05
13	13	13	13	21	21
0725	0800	0835	0950	0625	0540
17. 30	18. 20	19. 50	18. 90	22. 20	23. 50
17. 11	18. 13	19. 44	18. 72	20. 36	20. 47
10. 24	10. 25	12. 10	10. 49	18. 19	15. 40
—	3. 20	8. 75	5. 24	15. 41	15. 25
—	2. 27	2. 24	2. 16	—	12. 92
—	—	1. 60	1. 57	—	7. 27
—	—	1. 34	1. 24	—	—
—	—	1. 02	0. 80	—	—
7. 11	2. 16	—	—	4. 91	6. 53
—	32. 27	32. 57	32. 81	32. 30	32. 63
33. 03	32. 50	32. 95	33. 10	32. 50	32. 72
33. 40	33. 15	33. 73	33. 82	33. 06	33. 35
—	33. 91	33. 89	33. 89	33. 40	33. 33
—	34. 00	33. 98	34. 02	—	33. 53
—	—	34. 00	34. 02	—	33. 68
—	—	34. 04	34. 02	—	—
—	—	34. 05	34. 02	—	—
33. 80	34. 00	—	—	33. 80	33. 77
36	118	—	—	98	184
13	11	12	15	13	—
—	—	—	—	—	—
4	5	6	7	5	6
2	3	3	3	3	3
20. 5	21. 0	22. 0	23. 0	21. 5	23. 5
764	764	764. 5	764	765	766
S. 3	S. 4	E. 4	SW. 5	NE. 3	NE. 3
Ci. 6	Ci. 6	Cc. 7	Cu. 5	St. 10	Cs. 10
BC	BC	BC	BC	R	R

Date		August 1963				
Sta. No.		06	07	08	09	10
Day		21	21	21	20	20
Item	Time / Z(m)	0415	0250	0100	2300	2115
T °C	0	24.00	24.10	23.70	23.50	24.10
	10	23.85	24.07	23.35	22.37	23.86
	25	15.69	12.68	14.13	18.95	17.99
	50	10.33	4.88	6.34	8.74	14.33
	100	5.01	2.20	2.58	3.37	3.77
	150	2.76	1.57	1.98	2.15	2.25
	200	1.36	1.46	1.34	1.73	1.68
	300	2.96	0.95	0.82	1.61	1.42
	Botm.	—	—	—	—	—
S ‰	0	32.36	34.18	32.14	32.43	32.05
	10	32.48	32.27	32.18	32.54	32.05
	25	33.51	33.62	33.59	32.88	33.08
	50	33.68	33.86	33.86	33.84	33.91
	100	33.68	33.91	33.95	33.86	33.80
	150	33.82	33.95	33.96	33.95	33.95
	200	33.86	34.04	34.02	34.00	—
	300	34.04	34.04	34.04	34.02	33.96
	Botm.	—	—	—	—	—
Depth (m)		—	—	—	—	—
Secchi (m)		—	—	—	—	—
Color		—	—	—	—	—
Sea		6	5	5	5	5
Swell		3	3	3	3	3
Air Temp. (°C)		23.9	23.8	23.5	23.8	24.0
Baro. (mm)		766	767	766	767	767
Wind		NE. 3	NE. 3	NE. 3	NE. 3	NE. 3
Cloud		St. 10	St. 8	St. 9	St. 7	St. 7
Weather		R	C	C	BC	BC

남 해 해 양 조 사 성 적

OCEANOGRAPHIC OBSERVATIONS

SOUTHERN WATERS

1 9 6 3

A. 209선 해양관측성적

Oceanographic Data, Line 209

Date		① March 1963				
Sta. No.		04	05	06	07	08
Day		5	5	5	5	5
Item	Time / Z(m)	1630	1715	1900	2025	2215
T °C	0	7.40	7.80	10.60	10.60	10.50
	10	7.43	7.06	9.93	9.56	9.39
	25	7.19	6.50	10.29	10.19	9.91
	50	—	4.84	9.48	10.28	9.62
	100	—	3.07	3.98	3.43	7.80
	150	—	—	2.40	2.87	6.84
	200	—	—	1.62	2.11	3.00
	300	—	—	1.03	0.89	0.79
	Botm.	7.16	3.04	—	—	—
S ‰	0	34.04	34.24	34.58	34.49	34.49
	10	34.29	34.24	34.54	34.51	34.45
	25	34.22	34.04	34.51	34.51	34.42
	50	—	33.95	34.51	34.42	34.40
	100	—	33.86	33.91	33.87	34.29
	150	—	—	33.91	33.86	33.91
	200	—	—	33.89	34.15	33.93
	300	—	—	33.96	33.93	33.96
	Botm.	34.20	33.86	—	—	—
Depth (m)		46	138	—	—	—
Secchi (m)		7	9	—	—	—
Color		—	—	—	—	—
Sea		4	4	4	5	6
Swell		2	2	2	3	3
Air Temp. (°C)		14.1	14.0	13.9	13.5	13.3
Baro. (mm)		773	773	774	774	774
Wind		NE. 3	N. 3	N. 3	N. 5	NE. 3
Cloud		St. 8	St. 8	St. 7	Sc. 7	St. 9
Weather		C	C	BC	BC	R

Date		② April 1963				
Sta. No.		04	05	06	07	08
Day		3	3	3	3	3
Item	Time / Z(m)	1900	1806	1715	1610	1420
T °C	0	11. 30	12. 00	12. 23	11. 50	9. 50
	10	11. 19	11. 46	11. 83	11. 44	9. 24
	25	10. 84	11. 34	11. 13	11. 16	8. 99
	50	—	10. 76	10. 99	10. 83	8. 82
	100	—	—	10. 82	10. 14	7. 62
	150	—	—	—	6. 63	5. 33
	200	—	—	—	4. 66	2. 59
	300	—	—	—	—	1. 57
	Botm.	10. 32	7. 33	5. 25	3. 45	—
S ‰	0	—	34. 60	34. 45	34. 47	34. 33
	10	34. 60	34. 60	34. 49	34. 00	34. 29
	25	34. 60	34. 61	34. 60	34. 00	34. 33
	50	—	34. 65	—	34. 51	34. 33
	100	—	—	34. 00	34. 51	33. 96
	150	—	—	—	—	33. 93
	200	—	—	—	34. 04	33. 78
	300	—	—	—	—	34. 22
	Botm.	34. 60	34. 60	34. 24	33. 98	—
Depth (m)		52	118	178	250	—
Secchi (m)			—	9	10	14
Color		—	—	—	—	—
Sea		6	5	4	5	3
Swell		3	3	3	3	2
Air Temp. (°C)		9. 0	10. 0	10. 5	11. 0	11. 0
Baro. (mm)		779	770	770	771	776
Wind		SW. 3	SW. 3	SW. 4	SW. 4	SW. 3
Cloud		Cs. 10	Cs. 10	Cs. 8	Cs. 8	Cs. 10
Weather		C	C	C	C	C

③ May 1963					
04	05	06	07	08	09
13	13	13	13	13	13
0725	0816	0950	1020	1320	1520
12.80	12.53	13.00	12.00	13.90	14.20
12.82	12.46	12.98	11.46	13.37	13.81
12.83	12.61	12.90	11.09	11.75	13.47
10.85	11.37	11.74	9.79	11.33	12.36
—	6.65	10.03	7.26	5.17	8.51
—	1.46	2.77	3.47	3.74	7.65
—	—	1.45	1.74	2.27	—
—	—	—	—	—	—
—	—	—	—	—	—
33.51	33.37	33.82	34.27	34.02	34.11
33.78	33.68	34.00	34.20	34.11	34.07
33.82	33.95	34.00	34.25	34.27	34.11
34.56	34.61	34.47	34.27	34.27	34.33
—	34.38	34.47	34.15	33.98	34.18
—	34.15	34.09	34.11	34.11	34.43
—	—	34.04	34.13	34.11	—
—	—	—	—	—	—
—	—	—	—	—	—
60	150	—	—	200	—
9	12	12	13	17	19
4	4	3	3	3	2
1	1	1	1	1	1
1	1	1	1	1	1
12.8	12.8	12.9	13.9	16.1	17.8
—	—	—	—	—	—
SE. 1	SE. 1	E. 1	SE. 1	S. 1	0
10	10	Sc. 9	Sc. 10	Cu. 10	Cb. 10
R	R	C	C	R	C

Date		④ July 1963			
Sta. No.		04	05	06	07
Day		12	12	12	12
Item	Time / Z(m)	1430	1513	1625	1755
T °C	0	18.50	19.60	19.50	20.40
	10	18.37	17.63	16.55	20.06
	25	15.37	17.16	11.85	14.97
	50	—	14.26	8.34	12.76
	100	—	2.70	2.67	4.35
	150	—	—	2.04	2.08
	200	—	—	1.85	1.41
	300	—	—	1.42	0.97
	Botm.	6.83	2.41	—	—
S ‰	0	32.43	32.68	31.08	31.09
	10	32.52	32.70	32.70	31.98
	25	33.42	33.53	34.18	33.06
	50	—	33.80	33.96	34.05
	100	—	33.86	33.93	33.96
	150	—	—	33.93	34.02
	200	—	—	33.91	34.02
	300	—	—	33.87	34.04
	Botm.	33.73	33.87	—	—
Depth (m)		35	135	—	—
Secchi (m)		7	13	11	13
Color		—	—	—	—
Sea		4	5	5	5
Swell		3	3	3	3
Air Temp. (°C)		24.5	24.0	23.5	24.0
Baro. (mm)		765	765	765	765
Wind		E. 3	E. 3	E. 3	E. 3
Cloud		Ci. 7	Cc. 6	Ci. 8	Ci. 7
Weather		BC	BC	C	BC

⑤ August 1963

04	05	06	07	08	09
22	22	22	22	22	22
0559	0635	0740	0900	1050	1240
22. 80	23. 10	23. 50	22. 90	23. 50	24. 80
22. 40	22. 53	23. 06	22. 38	23. 23	24. 42
21. 78	21. 50	16. 96	18. 51	15. 08	21. 30
15. 27	15. 47	11. 89	11. 97	12. 09	13. 83
—	12. 75	5. 42	5. 39	3. 86	7. 93
—	—	2. 57	2. 52	2. 04	2. 19
—	—	—	2. 37	1. 60	1. 48
—	—	—	—	—	—
15. 27	9. 93	2. 11	1. 41	1. 13	0. 82
32. 45	32. 38	32. 23	31. 98	31. 26	30. 86
32. 45	32. 47	32. 27	32. 00	31. 20	30. 79
32. 57	32. 63	32. 59	33. 42	32. 97	31. 92
—	33. 35	33. 50	33. 60	33. 95	33. 42
—	34. 42	33. 69	33. 68	33. 95	33. 94
—	—	38. 87	33. 82	33. 95	33. 95
—	—	—	33. 84	33. 96	34. 00
—	—	—	—	—	—
33. 33	33. 75	33. 95	33. 66	34. 04	33. 93
53	149	207	238	280	250
—	20	18	19	15. 5	16
—	—	—	—	—	—
5	5	6	6	6	5
3	3	3	3	3	3
22. 5	23. 0	22. 5	24. 0	24. 0	24. 9
764	765	766	765	765	765
E. 4	E. 4	E. 3	E. 4	E. 3	E. 3
St. 10	St. 9	Cs. 9	Ci. 8	Ci. 9	St. 8
R	C	C	C	C	C

Date		⑥ December 1963				
Sta. No.		04	05	06	07	08
Day		13	13	13	13	13
Item	Time / Z(m)	0755	0840	1004	1203	1417
T °C	0	14.00	14.50	14.40	16.60	17.00
	10	12.53	14.67	14.73	16.33	16.31
	25	14.07	14.75	14.87	17.02	17.03
	50	—	13.94	14.48	16.23	17.05
	100	—	—	10.01	15.84	16.49
	150	—	—	4.04	10.74	15.97
	200	—	—	2.00	3.84	3.98
	300	—	—	1.91	2.01	1.47
	Botm.	13.49	3.37	—	—	—
S ‰	0	34.31	34.29	34.27	34.58	34.61
	10	34.27	34.27	34.29	34.51	34.61
	25	34.29	34.27	34.29	34.56	—
	50	—	34.20	34.40	34.51	34.58
	100	—	—	34.36	34.61	34.51
	150	—	—	34.36	34.61	34.67
	200	—	—	34.22	34.29	34.40
	300	—	—	34.22	34.25	34.43
	Botm.	34.13	34.00	—	—	—
Depth (m)		46	108	—	—	—
Secchi (m)		8	12	10	13	15
Color		—	—	—	—	—
Sea		3	3	5	5	6
Swell		1	2	2	3	3
Air Temp. (°C)		—	8.5	9.7	9.5	12.5
Baro. (mm)		—	—	—	—	—
Wind		—	SW. 4	SW. 4	SW. 4	W. 4
Cloud		W. 5	Cu. 4	St. 4	St. 3	Cu. 3
Weather		BC	BC	BC	BC	BC

B. 208선 해양관측성적

Oceanographic Data, Line 208

Date		① March 1963				
Sta. No.		01	02	03	04	05
Day		3	3	3	3	3
Item	Time / Z(m)	0725	0818	0925	1040	1155
T °C	0	10.90	12.00	12.20	11.20	10.90
	10	10.52	10.14	10.14	9.09	9.03
	25	10.50	10.47	10.51	10.02	9.95
	50	10.29	10.44	10.45	9.91	9.98
	100	—	8.36	10.19	7.42	9.89
	150	—	—	—	—	—
	200	—	—	—	—	—
	300	—	—	—	—	—
	Botm.	10.22	5.39	9.48	6.75	8.60
S ‰	0	34.60	34.51	34.60	—	34.45
	10	34.58	34.58	34.58	34.42	34.43
	25	34.58	34.51	34.56	34.42	34.40
	50	34.56	34.49	34.49	34.40	34.40
	100	—	34.31	34.49	34.11	34.38
	150	—	—	—	—	—
	200	—	—	—	—	—
	300	—	—	—	—	—
	Botm.	34.56	34.11	34.47	33.77	34.33
Depth (m)		65	115	137	145	142
Secchi (m)		—	6	7	9	12
Color		—	—	—	—	—
Sea		6	6	6	6	7
Swell		3	3	3	3	3
Air Temp. (°C)		9.2	9.4	9.5	9.3	9.2
Baro. (mm)		764	764	764	764	764
Wind		N. 3	N. 3	N. 3	N. 3	N. 3
Cloud		Cs. 8	St. 6	Ci. 8	Ci. 8	Cs. 8
Weather		C	BC	C	C	C

Date		② April 1963					
Sta. No.		01	02	03	04	05	06
Day		4	4	4	4	4	4
Item	Time / Z(m)	0840	0925	1030	1142	1250	1405
T °C	0	11.40	12.20	11.90	12.70	12.80	12.80
	10	11.20	12.14	11.55	12.26	13.01	13.06
	25	10.80	11.44	11.23	12.13	12.23	12.38
	50	—	10.96	10.97	11.80	12.18	12.02
	100	—	—	10.27	10.56	11.67	—
	150	—	—	—	—	—	—
	200	—	—	—	—	—	—
	300	—	—	—	—	—	—
	Botm.	10.78	10.37	9.97	10.07	10.64	11.77
S ‰	0	34.51	34.61	34.60	34.60	34.63	34.60
	10	34.51	34.58	34.60	34.60	34.60	34.56
	25	34.60	34.65	34.65	34.60	34.58	34.60
	50	—	34.69	34.65	—	34.60	34.54
	100	—	—	34.60	34.61	34.60	—
	150	—	—	—	—	—	—
	200	—	—	—	—	—	—
	300	—	—	—	—	—	—
	Botm.	34.60	34.65	34.60	34.65	34.65	34.51
Depth (m)		74	120	135	150	165	147
Secchi (m)		5	9	11	11	9	11
Color		3	3	3	3	—	3
Sea		2	2	3	5	4	4
Swell		1	1	1	2	2	2
Air Temp. (°C)		11.3	13.5	13.0	13.0	14.0	14.0
Baro. (mm)		772	772	772	772	771	771
Wind		SW. 2	SW. 3	SW. 2	SW. 3	SW. 3	SW. 4
Cloud		Ci. 10	Ci. 9	Ci. 8	Ci. 8	Ci. 8	Ci. 7
Weather		C	C	C	C	C	BC

③ May 1963

01	02	03	04	05	06
0250	0055	2326	2150	2020	1850
13. 50	13. 50	13. 70	14. 00	14 00	15. 00
13. 48	13. 39	13. 58	14. 07	13. 86	14 92
12. 74	13. 07	13. 18	13. 69	13. 49	13. 39
12. 82	12. 52	12. 28	13. 57	12. 34	12. 52
12. 32	12. 59	11. 87	12. 26	12. 27	12. 33
—	—	—	10. 98	—	—
—	—	—	—	—	—
—	—	—	—	—	—
9. 88	4. 39	11. 69	—	11. 26	12. 14
33. 95	33. 93	33. 93	34. 00	33. 93	34. 05
34. 02	34. 02	34. 09	34. 79	33. 96	34. 07
34. 18	34. 05	34. 29	34. 20	34. 02	34. 04
34 54	34. 45	34. 64	34. 11	34. 36	34. 36
34. 63	34. 58	34. 54	34. 51	34. 58	34. 54
—	—	—	34. 67	—	—
—	—	—	—	—	—
—	—	—	—	—	—
34. 54	34. 11	34. 50	33. 71	34. 63	34. 54
140	160	160	150	130	—
—	—	—	—	—	9
—	—	—	—	—	3
—	1	0	2	2	3
—	1	1	1	1	1
15. 6	15. 6	15. 8	16. 4	16. 4	17. 8
—	—	—	—	—	—
SW. 4	—	—	SE. 2	SE. 2	SE. 2
10	10	10	10	10	Cu. 4
C	C	C	C	C	BC

Date		④ June 1963				
Sta. No.		01	02	01	02	03
Day		29	29	29	29	29
Item	Time / Z(m)					
T °C	0	14.10	13.60	17.30	18.00	18.70
	10	13.50	13.20	15.10	17.40	18.00
	25	12.00	12.20	11.80	15.60	16.80
	50	11.40	12.00	10.20	13.10	16.50
	100	—	—	—	12.80	11.60
	150	—	—	—	—	—
	200	—	—	—	—	—
	300	—	—	—	—	—
	Botm.	—	—	—	—	—
S ‰	0	33.31	33.15	30.21	31.98	32.20
	10	33.30	33.26	32.48	32.66	32.38
	25	34.09	34.34	34.22	33.12	32.74
	50	34.43	34.38	34.29	34.22	32.70
	100	—	—	—	34.29	34.54
	150	—	—	—	—	—
	200	—	—	—	—	—
	300	—	—	—	—	—
	Botm.	—	—	—	—	—
Depth (m)		—	—	73	—	—
Secchi (m)		6	17	18	—	—
Color		—	—	—	—	—
Sea		—	—	5	4	6
Swell		—	—	1	1	1
Air Temp. (°C)		15.6	15.5	20.1	20.3	20.6
Baro. (mm)		—	—	—	—	—
Wind		—	—	SW. 3	SW. 2	SW. 3
Cloud		—	—	Cu. 10	W. 10	10
Weather		—	—	R	C	C

⑤ July 1963

01	02	03	04	01′	02′
12	12	12	12	12	12
0607	0700	0815	0935	1115	1300
18. 60	19. 50	19. 70	19. 80	20. 00	17. 40
14. 77	19. 58	18. 13	19. 32	18. 35	16. 39
11. 24	18. 52	16. 28	17. 42	13. 58	13. 44
6. 46	16. 09	16 01	13 31	13. 27	5. 68
—	6. 95	10. 12	12. 94	7. 11	—
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
5. 99	5. 90	7. 51	7. 38	6. 05	5. 63
30. 95	29. 67	31. 29	31. 44	31. 02	32. 85
32. 45	31. 17	31. 74	31. 46	31. 67	33. 22
33. 62	31. 82	32. 85	31. 99	33. 48	33. 57
33. 95	32. 94	33. 82	33. 59	31. 73	33. 87
—	34. 11	34. 25	34. 09	34. 05	—
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
34. 07	34. 11	34. 25	34. 09	34. 09	33. 91
63	115	145	152	128	106
6	7	17	18	15	13
—	—	—	—	—	—
5	6	5	5	5	5
3	3	3	3	3	3
17. 5	17. 8	19. 7	20. 5	21. 5	24. 5
765	765	765. 5	765. 5	765	765
E. 3	E. 3	E. 3	E. 3	E. 3	E. 3
Ac. 9	Ac. 9	Ac 9	Cc. 7	Cu. 7	Ac. 6
C	C	C	BB	BC	BC

Date		⑥ August 1963					
Sta. No.		01	02	03	04	05	06
Day		22	22	22	22	22	22
Item	Time / Z (m)	1125	2140	2020	1910	1800	1653
T °C	0	22.50	23.40	25.70	24.00	25.60	26.10
	10	22.50	23.31	25.21	23.72	24.59	25.40
	25	20.96	15.49	18.39	16.00	18.60	20.58
	50	—	12.57	10.87	14.50	14.31	15.67
	100	—	3.74	5.25	8.04	13.63	13.90
	150	—	—	2.40	2.75	9.02	11.16
	200	—	—	—	—	—	—
	300	—	—	—	—	—	—
	Botm.	12.53	3.08	—	—	—	—
S ‰	0	32.52	31.67	30.26	31.37	31.28	30.82
	10	32.52	32.23	30.12	31.44	31.29	30.81
	25	32.68	33.30	32.85	32.29	32.54	32.27
	50	—	33.93	33.93	34.40	33.95	33.35
	100	—	33.95	34.04	34.02	34.31	34.13
	150	—	—	—	—	—	—
	200	—	—	—	—	—	—
	300	—	—	—	—	—	—
	Botm.	33.51	33.95	34.04	34.04	34.05	34.15
Depth (m)		54	130	148	151	140	128
Secchi (m)		—	—	—	20	18.5	19
Color		—	—	—	—	—	—
Sea		4	4	5	5	5	5
Swell		2	2	3	3	3	3
Air Temp. (°C)		22.6	24.0	24.5	25.6	25.5	25.8
Baro. (mm)		765	765	765	765	765	765
Wind		E. 2	E. 3	E. 2	E. 3	E. 2	E. 3
Cloud		As. 8	Ci. 8	Ci. 9	Ci. 9	St. 8	As. 8
Weather		C	C	C	C	C	C

⑦ December 1963				
01	02	03	04	05
12	12	12	12	12
1000	1115	1245	1425	1605
14. 40	15. 50	17. 00	17. 00	17. 30
13. 89	15. 75	17. 06	17. 05	16. 06
14. 33	15. 95	17. 47	17. 58	17. 52
13. 93	16. 50	17. 52	17. 65	17. 58
—	8. 56	15. 94	17. 06	17. 35
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
13. 86	11. 53	3. 82	10. 16	10. 77
34. 12	34. 31	34. 49	34. 40	34. 42
34. 18	34. 36	34. 34	34. 50	34. 38
34. 22	34. 12	34. 33	34. 38	34. 36
34. 29	34. 29	34. 38	34. 47	34. 36
—	34. 56	34. 38	34. 38	34. 36
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
34. 22	34. 11	34. 29	34. 45	34. 29
65	118	149	147	145
10	12	12	11	12
—	—	—	—	—
3	2	5	6	6
1	1	3	3	3
6. 5	7. 0	8. 5	—	—
—	—	—	—	—
NE. 2	NE. 4	NW. 4	NW. 5	NW. 5
Ci. 2	Ci. 2	Cs. 4	St. 6	St. 7
B	B	BC	BC	BC

C. 207선 해 양 관 측 성 적

Oceanographic Data, Line 207

Date		① Fe ruary 1963				
Sta. No.		01	02	03	04	05
Day		2	2	2	2	2
Item	Time / Z(m)	1010	1105	1200	1300	1348
T °C	0	10. 90	11. 00	11. 00	11. 00	11. 10
	10	9. 82	10. 05	9. 77	9. 45	8. 50
	25	11. 63	11. 56	11. 05	10. 95	10. 93
	50	11. 53	11. 64	11. 52	11. 05	11. 11
	100	—	—	11. 49	11. 06	11. 10
	150	—	—	—	9. 62	—
	200	—	—	—	7. 55	—
	300	—	—	—	—	—
	Botm.	10. 64	10. 53	10. 82	6. 99	9. 08
S ‰	0	34. 99	34. 76	34. 74	34. 70	34. 63
	10	34. 72	34. 69	34. 72	34. 65	34. 61
	25	34. 78	34. 79	34. 70	34. 63	34. 56
	50	34. 74	34. 72	34. 69	34. 63	34. 56
	100	—	—	34. 63	34. 56	34. 56
	150	—	—	—	34. 45	—
	200	—	—	—	34. 34	—
	300	—	—	—	—	—
	Botm.	34. 72	34. 72	34. 72	34. 34	34. 54
Depth (m)		81	95	122	229	157
Secchi (m)		8	11	13	15	12
Color		—	—	—	—	—
Sea		3	4	6	6	5
Swell		2	3	3	3	3
Air Temp. (°C)		0. 1	0. 1	0. 15	0. 2	2. 1
Baro. (mm)		769	769	769	773	773
Wind		NW. 3	NW. 3	NW. 5	NW. 5	NW. 5
Cloud		St. 3	St. 1	St. 1	St. 4	St. 3
Weather		BC	B	B	BC	BC

② March 1963

01	02	03	04	05
7	7	7	7	7
1745	1705	1620	1522	1430
11.70	11.70	12.00	12.50	12.50
11.20	11.13	11.03	11.37	11.72
11.05	11.29	11.31	12.05	11.98
10.82	10.68	10.91	11.76	11.55
—	—	10.94	10.91	10.67
—	—	—	10.55	—
—	—	—	10.47	—
—	—	—	—	—
10.90	10.64	10.57	10.43	10.10
34.58	34.65	34.65	34.67	34.67
34.58	34.65	34.65	34.65	34.65
34.56	34.60	34.61	34.65	34.61
34.56	34.52	34.58	34.65	34.58
—	—	34.56	34.56	34.52
—	—	—	34.54	—
—	—	—	34·54	—
—	—	-	—	—
34.56	34.52	34.56	34.52	34.52
89	102	139	227	138
11	12	14.5	17	16
—	—	—	—	—
3	3	4	3	3
2	2	2	2	2
15.8	16.0	16.1	16.3	16.5
778	778	778	778	779
E. 3	E. 3	NE. 3	NE. 3	NE. 3
St. 3	St. 3	St. 3	Ci. 5	St. 6
BC	BC	BC	BC	BC

Date		③ April 1963				
Sta. No.		01	02	03	04	05
Day		4	4	4	4	4
Item	Time / Z (m)	2122	2044	1945	1845	1805
T °C	0	11.70	12.00	12.80	12.60	12.60
	10	11.59	11.78	12.71	12.38	12.39
	25	10.85	11.13	11.81	12.18	12.12
	50	10.77	11.67	11.07	12.03	12.08
	100	—	—	—	11.91	11.82
	150	—	—	—	10.92	—
	200	—	—	—	10.92	—
	300	—	—	—	—	—
	Botm.	10.70	10.66	10.31	10.05	11.73
S ‰	0	34.40	34.11	34.29	33.87	34.31
	10	34.43	34.47	34.31	34.31	34.31
	25	34.43	—	34.31	34.31	34.40
	50	34.49	34.58	34.58	34.36	34.42
	100	—	—	—	34.49	34.43
	150	—	—	—	34.51	—
	200	—	—	—	34.56	—
	300	—	—	—	—	—
	Botm.	34.51	34.58	34.60	34.56	34.45
Depth (m)		76	92	110	—	120
Secchi (m)		—	—	—	—	9
Color		—	—	—	—	—
Sea		5	4	4	4	4
Swell		2	2	2	2	2
Air Temp. (°C)		13.0	13.0	13.5	14.0	14.0
Baro. (mm)		771	771	771	770	770
Wind		SW. 3	SW. 3	SW. 3	SW. 4	SW. 4
Cloud		10	10	—	Cc. 10	St. 4
Weather		C	C	C	C	C

④ May 1963				
01	02	03	04	05
19	19	19	19	19
13.0	14.0	13.7	13.5	15.8
12.5	13.5	13.5	13.0	15.2
12.5	12.3	12.7	11.6	14.8
12.0	11.5	11.7	12.3	12.8
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
11.7	—	—	—	—
33.04	33.48	33.24	33.21	34.11
33.13	33.48	33.31	33.22	33.98
33.75	33.84	33.69	33.82	33.91
34.27	34.22	33.46	33.65	33.91
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
34.43	—	—	—	—
100	94	120	210	97
—	16	16	20	16
—	—	—	—	—
1	1	1	1	1
1	1	1	—	—
13.5	14.3	15.2	14.5	14.8
—	—	—	—	—
SE. 1	—	—	—	—
6	6	6	6	6
BC	BC	BC	BC	BC

Date		⑤ June 1963				
Sta. No.		01	02	03	04	05
Day		27	27	27	27	27
Item	Time / Z(m)					
T °C	0	16.8	16.9	17.6	17.8	17.9
	10	16.1	16.9	—	17.6	17.4
	25	14.5	16.2	16.4	15.4	16.9
	50	12.5	15.7	13.2	13.1	13.1
	100	14.3	12.1	12.9	—	—
	150	—	—	12.6	12.8	12.9
	200	—	—	—	—	—
	300	—	—	—	—	—
	Botm.	—	—	—	—	—
S ‰	0	28.50	31.28	32.12	32.05	32.56
	10	30.03	32.16	33.01	32.23	32.56
	25	33.22	32.86	33.22	33.15	33.04
	50	34.00	32.70	33.75	33.82	33.75
	100	34.47	33.93	34.43	—	—
	150	—	—	34.22	34.29	34.47
	200	—	—	—	—	—
	300	—	—	—	—	—
	Botm.	—	—	—	—	—
Depth (m)		80	90	110	110	120
Secchi (m)		4.5	7.0	11	10	15
Color		—	—	—	—	—
Sea		1	1	2	1	1
Swell		1	1	1	1	1
Air Temp. (°C)		19.8	19.8	18.0	18.3	18.2
Baro. (mm)		—	—	—	—	—
Wind		NE. 2	NE. 2	NE. 3	NE. 2	NE. 2
Cloud		F. 10	F. 10	10	10	St. 10
Weather		C	C	R	R	C

⑥ July 1963					
01	02	03	04	05	01′
9	9	9	9	9	9
1055	1146	1230	1344	1430	1615
19.00	20.70	19.50	20.10	20.00	20.50
17.13	17.06	18.84	19.84	18.86	20.24
14.30	14.06	12.97	15.65	14.82	16.71
12.11	12.81	12 63	13.18	13.63	12.59
—	—	11.96	13·06	13.57	—
—	—	—	8.98	—	—
—	—	—	6.80	—	—
—	—	—	—	—	—
11.36	12.33	9.63	6.50	13.13	9.94
29.43	31.08	30.14	31.37	31.46	30.23
31.74	32.81	31.56	31.38	31.82	30.61
32.95	33.55	33.71	32.47	32.88	32.18
34.16	—	34.31	33.75	33.69	34.02
—	—	—	—	—	—
—	—	34.31	34.13	34.27	—
—	—	—	34.18	—	—
—	—	—	34.11	—	—
34.29	34.31	33.37	34.09	34.25	34.18
76	98	112	220	148	108
3	12	6	17	20	8
—	—	—	—	—	—
3	4	5	5	4	4
1	2	3	3	2	2
24.0	24.5	24.5	24.4	24.3	24.5
764	764	764	763.5	763	763.5
SW. 2	SW. 3	SW. 3	SW. 3	SW. 3	SW. 3
Ci. 7	Ci. 7	Ci. 8	Ci. 7	Ci. 9	Cs. 7
BC	BC	C	BC	C	BC

Date		⑦ August 1963				
Sta. No.		01	02	03	04	05
Day		24	24	24	24	24
Item	Time / Z (m)	1010	1100	1145	1245	1325
T °C	0	23.40	24.20	26.10	27.20	27.40
	10	22.41	23.08	25.92	26.59	26.88
	25	20.31	19.60	18.11	24.07	24.36
	50	19.49	13.67	14.26	13.51	15.17
	100	—	—	10.09	12.05	13.77
	150	—	—	—	4.75	—
	200	—	—	—	3.51	—
	300	—	—	—	—	—
	Botm.	13.63	11.30	6.72	2.70	6.23
S ‰	0	32.34	31.47	30.57	30.12	30.75
	10	32.36	32.18	30.57	30.55	31.46
	25	32.79	32.63	31.83	32.16	33.76
	50	32.81	33.44	34.09	32.63	32.86
	100	—	—	34.11	33.84	34.20
	150	—	—	—	34.00	34.02
	200	—	—	—	34.02	—
	300	—	—	—	—	—
	Botm.	34.24	33.18	34.13	34.02	34.20
Depth (m)		70	93	115	225	145
Secchi (m)		16	16	20	23	25
Color		—	—	—	—	—
Sea		4	4	4	4	4
Swell		2	2	2	2	2
Air Temp. (°C)		24.0	25.9	26.0	27.0	27.0
Baro. (mm)		766	766	766	766	766
Wind		SE. 2	SE. 3	SE. 2	SE. 2	SE. 2
Cloud		Ac. 9	Ci. 7	Ci. 7	Cs. 7	St. 7
Weather		C	BC	BC	BC	BC

⑧ December 1963				
01	02	03	04	05
19	19	19	19	19
1015	1110	1210	1305	1355
14. 70	15. 70	16. 20	17. 50	17. 60
15. 08	15. 13	16. 18	17. 88	17. 30
15. 16	15. 68	16. 48	17. 99	17. 67
14. 46	13. 54	16. 12	17. 76	17. 66
—	—	15. 44	17. 75	17. 50
—	—	—	13. 70	—
—	—	—	11. 38	—
—	—	—	—	—
13. 29	12. 29	11. 18	9. 07	6. 12
34. 65	34. 61	34. 51	34. 61	34. 61
34. 67	34. 61	34. 61	34. 67	34. 67
34. 61	34. 58	34. 51	34. 78	34. 60
34. 61	34. 61	34. 43	34. 61	34. 61
—	—	34. 67	34. 51	34. 61
—	—	—	34. 61	—
—	—	—	34. 51	—
—	—	—		—
—	34. 43	34. 43	34. 51	34. 43
85	102	125	221	154
7	10	15	18	16
—	—	—	—	—
4	5	6	6	6
2	2	3	3	3
4. 0	6. 5	8. 5	7. 2	7. 5
—	—	—	—	—
N. 5	N. 5	N. 5	N. 2	N. 5
St. 3	St. 1	Ci. 1	St. 1	Ci. 4
BC	B	B	B	BC

D. 206선 해 양 관 측 성 적

Oceanographic Data, Line 206

Date		① April 1963				② August 1963			
Sta. No.		01	02	03	04	01	02	03	04
Day		10	10	10	10	24	24	24	24
Item	Time / Z(m)	1655	1800	2035	2150	2113	2007	1845	1730
T °C	0	12.10	12.50	11.90	12.10	23.80	26.00	26.60	27.40
	10	11.14	10.65	11.07	10.93	23.35	25.36	24.90	25.82
	25	10.91	11.45	11.18	11.65	18.64	16.39	17.53	23.05
	50	10.80	11.29	11.13	11.60	13.85	12.44	12.08	15.36
	100	—	—	—	10.79	—	—	—	14.28
	150	—	—		—	—	—	—	—
	200	—	—		—	—	—	—	—
	300	—	—	—	—	—	—	—	—
	Botm.	10.79	11.39	10.95	10.74	12.13	11.64	10.12	6.21
S ‰	0	34.69	34.85	34.63	34.29	31.02	30.59	30.17	30.82
	10	34.61	34.69	34.56	34.45	31.08	30.66	30.50	32.16
	25	34.60	34.63	34.63	34.38	32.61	32.57	32.27	33.91
	50	34.69	34.85	34.65	34.65	32.24	33.84	33.77	33.40
	100	—	—	—	34.76	—	—	—	34.00
	150	—	—	—	—	—	—	—	—
	200	—	—	—	—	—	—	—	—
	300	—	—	—	—	—	—	—	—
	Botm.	34.61	34.61	34.67	34.74	33.69	33.86	34.04	34.04
Depth (m)		84	80	97	126	61	84	103	148
Secchi (m)		9	10	—	—	—	—	18	20.5
Color		—	—	—	—	—	—	—	—
Sea		3	3	4	4	3	4	4	4
Swell		2	2	2	3	2	2	2	2
Air Temp. (°C)		14.0	13.8	10.0	9.2	24.4	25.5	26.9	27.2
Baro. (mm)		778	778	778	778.5	765	765	765	765
Wind		SW. 4	SW. 4	SW. 4	SW. 4	SE. 2	SE. 2	SE. 3	SE. 4
Cloud		St. 2	St. 2	Sc. 3	St. 1	Ci. 6	Ci. 5	Ci. 6	Ac. 6
Weather		B	B	BC	B	BC	BC	BC	BC

E. 205선 해양관측성적

Oceanographic Data, Line 205

Date		① April 1963				
Sta. No.		01	02	03	04	05
Day		11	11	11	11	11
Item	Time / Z(m)	1112	1215	1320	1505	1645
T °C	0	12.70	12.10	12.20	12.80	12.90
	10	11.86	11.77	12.18	12.48	12.81
	25	11.44	11.72	11.84	12.41	12.04
	50	11.24	11.60	11.67	11.88	11.98
	100	—	—	—	—	—
	150	—	—	—	—	—
	200	—	—	—	—	—
	300	—	—	—	—	—
	Botm.	11.29	11.55	11.55	11.55	12.00
S ‰	0	34.70	34.65	34.27	34.38	34.70
	10	34.78	34.65	34.27	34.27	34.70
	25	34.67	34.65	34.29	34.27	34.72
	50	34.76	34.72	34.56	34.29	34.74
	100	—	—	—	—	—
	150	—	—	—	—	—
	200	—	—	—	—	—
	300	—	—	—	—	—
	Botm.	34.72	34.74	34.72	34.29	34.70
Depth (m)		62	60	81	89	75
Secchi (m)		7	9	9.5	9	11
Color		—	—	—	—	—
Sea		3	3	3	3	3
Swell		2	2	2	2	2
Air Temp. (°C)		15.1	15.5	15.3	15.1	15.0
Baro. (mm)		778	778	778	777	777
Wind		SW. 3	SW. 3	SW. 3	SW. 4	SW. 3
Cloud		Ci. 5	Ci. 6	Ci. 6	Cs. 6	Ci. 5
Weather		BC	BC	BC	BC	BC

Date		② June 1963						
Sta. No.		01	02	03	04	05	07	08
Day		1	1	1	1	1	1	1
Item	Time / Z (m)	1525	1425	1315	1135	0955	0745	0600
T °C	0	16.30	15.50	15.70	15.70	16.30	15.90	15.50
	10	15.38	14.94	15.31	14.61	16.00	15.41	14.41
	25	14.32	14.15	13.84	13.37	14.81	12.38	13.30
	50	—	—	11.55	11.42	12.05	11.52	10.95
	100	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—
	200	—	—	—	—	—	—	—
	300	—	—	—	—	—	—	—
	Botm.	11.74	11.52	12.16	12.06	12.92	11.78	10.88
S ‰	0	33.10	33.19	33.37	33.26	33.01	33.10	33.33
	10	33.12	33.19	33.37	33.39	33.06	33.12	33.33
	25	33.44	33.22	33.44	33.35	33.06	33.33	33.37
	50	—	—	33.69	33.71	33.06	33.68	33.51
	100	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—
	200	—	—	—	—	—	—	—
	300	—	—	—	—	—	—	—
	Botm.	33.80	33.66	33.71	33.96	33.96	33.71	33.84
Depth (m)		48	56	81	93	79	90	88
Secchi (m)		9	13	15	21	24	22	10
Color		—	—	—	—	—	—	—
Sea		5	5	6	5	4	4	4
Swell		3	3	3	3	3	3	3
Air Temp. (°C)		18.5	17.7	17.5	17.5	17.4	17.2	17.0
Baro. (mm)		765	765.5	766	766	766	765	765
Wind		E. 4	E. 4	E. 4	E. 4	ES. 3	SE. 2	S. 2
Cloud		St. 5	St. 6	Ci. 8	Ci. 8	Ci. 9	Sc. 8	Sc. 5
Weather		BC	BC	C	C	C	C	BC

③ August 1963				
01	02	03	04	05
30	30	30	30	30
0720	0830	0940	1120	1300
26. 10	26. 40	26. 90	27. 60	28. 50
24. 61	24. 92	24. 02	25. 83	28. 29
20. 16	17. 62	19. 63	21. 01	26. 65
—	—	12. 48	16. 69	18. 70
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
12. 54	12. 81	12. 97	12. 90	14. 33
31. 20	30. 43	30. 93	29. 85	29. 56
31. 46	30. 95	31. 64	30. 25	30. 43
32. 12	32. 70	32. 45	31. 71	32. 74
—	—	33. 78	33. 33	34. 29
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
33. 66	34. 16	34. 43	34. 63	34. 78
56	53	92	92	80
20	20	19	19	24
—	—	—	—	--
3	4	3	3	3
2	2	2	2	3
26. 7	26. 5	27. 5	27. 6	28. 4
761	761	762	762	762
NW. 2	NW. 3	NW. 2	NW. 2	NW. 2
Ci. 6	Ci. 8	Ac. 8	St. 9	Cs. 8
BC	C	C		C

F. 204선 해양관측성적

Oceanographic Data, Line 204

Date		① April 1963			② May 1963				③ September 1963		
Sta. No.		04	05	06	04	05	06	07	04	05	06
Day		19	19	19	29	29	29	29	1	1	1
Item	Time / Z(m)	0905	1020	1135	1840	1730	1615	1155	1125	1245	1405
T °C	0	11.70	11.20	11.00	16.20	16.10	16.50	18.60	25.20	26.10	26.40
	10	11.77	11.07	10.76	15.52	14.70	15.90	19.94	24.32	24.21	25.52
	25	10.89	10.61	10.20	12.12	14.07	14.04	16.92	16.34	18.41	24.38
	50	11.43	10.98	10.79	10.72	12.46	14.28	14.53	12.97	14.30	17.71
	100	—	—	11.19	—	—	13.01	13.80	—	—	13.43
	150	—	—	—	—	—	—	—	—	—	—
	200	—	—	—	—	—	—	—	—	—	—
	300	—	—	—	—	—	—	—	—	—	—
	Botm.	11.48	10.55	10.75	10.91	12.95	12.99	13.77	13.75	14.05	13.42
S ‰	0	33.59	33.24	34.11	33.01	33.44	33.03	31.96	30.91	30.57	—
	10	33.59	33.13	32.70	33.06	33.44	33.03	32.03	30.95	31.02	30.32
	25	33.50	33.24	33.30	33.28	33.46	33.19	32.14	32.45	32.34	30.25
	50	33.84	34.02	34.20	33.89	33.71	34.05	34.04	34.04	33.26	31.46
	100	—	—	34.09	—	—	34.38	34.15	—	—	33.86
	150	—	—	—	—	—	—	—	—	—	—
	200	—	—	—	—	—	—	—	—	—	—
	300	—	—	—	—	—	—	—	—	—	—
	Botm.	34.65	34.07	34.11	33.89	34.42	34.40	34.16	34.51	34.74	33.86
Depth (m)		83	96	128	75	94	129	127	82	92	129
Secchi (m)		8	10	11	21	16	21	19	18	19	14
Color		—	—	—	—	—	—	—	—	—	—
Sea		4	5	6	5	5	5	4	4	5	—
Swell		3	3	3	3	3	3	3	2	3	3
Air Temp. (°C)		14.1	14.3	15.0	19.0	19.4	19.5	19.0	27.2	29.0	27.0
Baro. (mm)		769	770	769.5	764	764	765	767	761	761	761
Wind		NE. 4	NE. 4	NE. 4	S. 3	S. 3	S. 3	E. 3	E. 3	E. 3	E. 3
Cloud		St. 7	St. 8	St. 7	Ci. 10	Ci. 9	Ci. 9	Ci. 10	Ci. 6	Ci. 5	Cs. 8
Weather		BC	C	BC	B	C	C	R	BC	BC	C

G. 203선 해양관측성적

Oceanographic Data, Line 203

Date		① May 1963		
Sta. No.		01	02	03
Day		28	28	28
Item	Time / Z(m)	1535	0625	0800
T °C	0	13.10	15.50	15.70
	10	13.38	14.80	15.03
	25	12.50	14.07	14.61
	50	11.78	13.12	13.34
	100	—	10.47	—
	150	—	—	—
	200	—	—	—
	300	—	—	—
	Botm.	11.75	10.36	12.17
S ‰	0	33.24	33.37	33.33
	10	33.26	33.37	33.37
	25	—	33.69	33.46
	50	33.46	33.69	33.68
	100	—	33.73	—
	150	—	—	—
	200	—	—	—
	300	—	—	—
	Botm.	33.62	33.93	33.75
Depth (m)		59	130	104
Secchi (m)		8	12	13
Color		—	—	—
Sea		5	3	4
Swell		3	2	2
Air Temp. (°C)		17.8	15.0	15.3
Baro. (mm)		770	767	769
Wind		E. 5	NE. 1	NE. 3
Cloud		Ci. 9	Ci. 9	Ci. 9
Weather		C	C	C

서 해 해 양 조 사 성 적

OCEANOGRAPHIC OBSERVATIONS
WESTERN WATERS

1 9 6 3

A. 314선 해양관측성적

Oceanographic Data, Line 314

Date		① April 1963									
Sta. No.		01	02	03	04	05	06	07	08	09	10
Day		24	24	24	24	24	24	24	24	25	25
Item	Time / Z(m)	1200	1343	1523	1700	1840	2030	2210	2350	0130	0310
T °C	0	13.50	13.60	12.60	12.20	11.50	10.90	11.60	11.50	11.30	11.30
	10	13.01	13.26	12.16	12.17	11.54	10.93	11.61	11.06	10.98	11.06
	25	13.04	13.34	11.20	12.15	10.82	10.39	10.81	9.98	10.48	10.65
	50	13.29	13.36	13.29	10.17	10.67	10.28	10.61	9.95	10.09	10.16
	100	—	13.38	9.90	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—	—	—	—
	200	—	—	—	—	—	—	—	—	—	—
	300	—	—	—	—	—	—	—	—	—	—
	Botm.	13.38	13.40	10.00	9.68	10.52	9.84	10.61	9.94	10.00	10.14
S ‰	0	34.02	33.75	33.24	32.88	32.79	32.86	32.88	32.79	32.72	32.97
	10	34.00	33.89	33.15	33.15	32.70	32.79	32.79	33.08	32.74	32.97
	25	34.02	34.11	33.19	33.86	32.70	33.06	32.86	33.37	33.06	32.99
	50	34.29	35.52	34.29	33.75	33.24	33.89	33.68	33.93	34.00	33.82
	100	—	35.39	33.95	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—	—	—	—
	200	—	—	—	—	—	—	—	—	—	—
	300	—	—	—	—	—	—	—	—	—	—
	Botm.	34.63	35.77	33.95	33.95	33.01	33.48	34.02	33.93	34.02	33.93
Depth (m)		106	117	112	103	100	103	99	89	75	73
Secchi (m)		10	11	10	9	8	—	—	—	—	—
Color		—	—	—	—	—	—	—	—	—	—
Sea		4	4	4	4	5	5	5	6	6	6
Swell		2	2	2	2	2	2	2	3	3	3
Air Temp. (°C)		16.2	16.5	16.5	15.7	14.5	13.6	13.2	11.2	11.9	12.9
Baro. (mm)		765	764	769.5	769	769	769	769	768	769.5	769.5
Wind		N. 3	N. 2	N. 2	N. 2	NW. 4	NW. 4	NW. 4	NW. 4	NW. 4	NW. 4
Cloud		St. 8	St. 8	St. 8	St. 7	St. 7	St. 6	St. 6	Sc. 6	Cs. 6	St. 7
Weather		C	C	C	BC	BC	BC	BC	BC	BC	BC

Date		② May 1963									
Sta. No.		01	02	03	04	05	06	07	08	09	10
Day		29	29	29	29	29	29	28	28	28	28
Item	Time / Z(m)	0915	0735	0555	0415	0235	0055	2315	2135	1950	1815
T °C	0	18.20	17.70	17.50	17.00	16.80	16.30	16.40	16.40	15.90	16.20
	10	17.40	16.85	16.40	16.20	12.66	15.50	15.10	15.70	15.61	14.44
	25	13.49	13.85	11.93	10.16	12.51	13.04	12.24	12.41	12.92	9.56
	50	13.01	13.91	13.06	11.11	13.05	13.05	11.20	10.00	10.23	9.51
	100	—	13.05	13.08	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—	—	—	—
	200	—	—	—	—	—	—	—	—	—	—
	300	—	—	—	—	—	—	—	—	—	—
	Botm.	12.68	13.01	13.05	12.60	13.13	13.03	10.24	9.98	10.14	9.50
S ‰	0	33.64	31.62	31.67	31.73	31.89	31.83	31.49	32.00	32.05	31.67
	10	32.05	31.69	31.69	31.74	32.76	31.85	31.55	32.03	32.16	31.94
	25	33.26	32.92	33.24	32.83	33.80	33.89	33.93	33.55	33.48	33.71
	50	33.89	33.89	33.82	34.15	34.15	34.31	33.95	33.77	33.87	33.78
	100	—	34.31	34.40	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—	—	—	—
	200	—	—	—	—	—	—	—	—	—	—
	300	—	—	—	—	—	—	—	—	—	—
	Botm.	34.16	34.40	34.33	34.15	33.25	33.34	33.96	33.80	33.87	33.86
Depth (m)		100	121	117	102	107	104	96	85	76	75
Secchi (m)		18	19	16	—	—	—	—	—	—	16
Color		—	—	—	—	—	—	—	—	—	—
Sea		4	6	5	5	5	5	5	5	5	2
Swell		3	3	3	3	3	3	3	3	3	3
Air Temp. (°C)		18.7	18.1	18.2	18.0	18.0	18.4	18.5	18.9	19.0	19.0
Baro. (mm)		768	786	768	767	768	768	768	768	769	769
Wind		NE. 3	E. 3	E. 3	E. 3	E. 3	E. 3	E. 3	E. 3	NE. 3	N. 3
Cloud		Ci. 7	Cs. 6	St. 5	St. 5	Ci. 9	Ci. 8	Cs. 7	Ci. 9	Ci. 9	Ci. 10
Weather		BC	BC	BC	BC	C	C	BC	C	C	C

③ September 1963

01	02	03	04	05	06	07	08	09	10
1	1	1	5	5	5	6	6	6	6
1905	2100	2250	2000	2140	2320	0100	0237	0415	0555
28. 90	29. 00	28. 90	27. 90	27. 70	27. 10	26. 15	26. 00	26. 50	26. 50
28. 79	28. 93	28. 62	27. 83	27. 12	26. 58	24. 75	25. 02	25. 72	21. 11
28. 83	28. 67	24. 25	23. 73	23. 25	23. 16	17. 22	22. 38	19. 01	20. 63
26. 08	18. 21	15. 66	17. 34	17. 34	17. 73	15. 17	16. 53	15. 52	16. 30
—	16. 51	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
14. 65	16. 86	14. 67	14. 25	14. 89	14. 78	14. 29	16. 05	13. 83	13. 10
32. 02	32. 16	31. 06	31. 24	31. 20	30. 68	30. 50	30. 21	30. 39	30. 75
32. 16	32. 34	31. 13	31. 28	31. 09	30. 73	30. 88	30. 07	30. 43	30. 75
32. 16	33. 44	32. 90	32. 97	32. 02	32. 48	32. 52	32. 72	32. 86	32. 48
34. 47	33. 59	33. 04	33. 59	33. 48	33. 40	33. 04	33. 44	—	33. 48
—	34. 34	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
34. 81	34. 51	34. 58	34. 81	34. 74	34. 58	34. 32	33. 37	34. 11	34. 04
105	122	109	105	102	105	100	92	80	73
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
5	6	6	6	6	6	6	6	7	6
3	3	3	3	3	3	3	3	3	3
28. 0	28. 2	28. 3	25. 5	25. 8	26. 0	25. 5	25. 4	24. 6	24. 3
760	760	759	767	767. 5	767	767	767	767	767
S. 3	SW. 4	S. 4	NE. 4	NE. 5	NE. 5	E. 5	E. 5	E. 5	E. 5
Ac. 5	Cu. 6	Ci. 6	Ci. 7	Ci. 4	Cc. 4	Cu. 5	St. 10	St. 10	St. 10
BC	BC	BC	BC	BC	BC	BC	C	C	C

B. 313선 해양관측성적

Oceanographic Data, Line 313

Date		① April 1963					
Sta. No.		02	03	04	05	06	07
Day		25	25	25	25	25	25
Item	Time / Z(m)	1136	1030	0915	0805	0655	0545
T °C	0	11.20	11.40	11.20	11.20	11.10	11.20
	10	11.12	9.86	10.10	10.57	10.43	10.77
	25	10.85	10.85	10.75	10.78	10.00	10.58
	50	10.87	11.00	10.79	10.89	10.50	10.59
	100	—	—	—	—	—	—
	150	—	—	—	—	—	—
	200	—	—	—	—	—	—
	300	—	—	—	—	—	—
	Botm.	10.93	11.11	10.95	10.99	10.88	10.82
S ‰	0	33.15	33.28	33.01	32.92	33.06	33.04
	10	33.21	33.28	33.06	32.95	33.06	33.06
	25	33.31	33.30	33.06	33.24	33.08	33.17
	50	33.86	34.38	33.21	33.95	33.12	33.48
	100	—	—	—	—	—	—
	150	—	—	—	—	—	—
	200	—	—	—	—	—	—
	300	—	—	—	—	—	—
	Botm.	34.02	34.43	34.40	33.36	34.93	34.11
Depth (m)		104	91	93	87	87	86
Secchi (m)		13	12	12	11	9	12.3
Color		—	—	—	—	—	—
Sea		7	6	6	6	6	7
Swell		3	3	3	3	3	3
Air Temp. (°C)		12.8	12.4	11.6	12	11.9	12.3
Baro. (mm)		770	770	770	770	769	770
Wind		N. 4	N. 4	N. 4	N. 4	N. 4	N. 4
Cloud		St. 5	St. 6	St. 6	St. 7	St. 7	Ci. 8
Weather		BC	BC	BC	BC	BC	C

② May 1963

02	03	04	05	06	07
28	28	28	28	28	28
0950	1100	1210	1318	1428	1535
15. 30	16. 00	16. 50	16. 50	15. 70	15. 70
14. 79	15. 52	15. 99	15. 73	14. 82	14. 91
13. 89	13. 55	14. 90	14. 23	11. 32	11. 27
13. 24	12. 22	11. 26	10. 37	10. 04	10. 15
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
13. 16	11. 92	10. 91	10. 23	10. 00	10. 14
33. 35	32. 92	33. 28	33. 24	34. 02	33. 78
33. 35	32. 94	33. 30	33. 24	34. 02	33. 82
33. 71	33. 80	33. 35	33. 73	33. 46	33. 77
33. 91	33. 98	33. 80	33. 80	33. 89	33. 75
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
34. 07	34. 04	33. 80	33. 80	33. 89	33. 96
101	85	94	84	82	82
14	13	12	20	21	19
—	—	—	—	—	—
5	5	5	5	5	5
2	2	3	3	3	3
18. 1	18. 5	19. 2	19. 5	19. 7	19. 5
769	769	769	769	769	769
N. 3	N. 3	N. 3	N. 3	N. 3	N. 3
Cs. 8	St. 6	Ci. 8	Ci. 9	Ci. 9	Ci. 9
C	BC	C	C	C	C

Date		③ September 1963					
Sta. No.		02	03	04	05	06	07
Day		6	6	6	6	6	6
Item	Time / (m)	1410	1255	1155	1045	0925	0815
T °C	0	23.00	25.20	25.50	25.80	25.90	25.90
	10	22.37	25.04	25.06	24.47	24.41	25.62
	25	20.32	17.24	18.37	20.80	17.00	17.60
	50	14.95	13.78	12.33	12.16	12.85	11.10
	100	—	—	—	—	—	—
	150	—	—	—	—	—	—
	200	—	—	—	—	—	—
	300	—	—	—	—	—	—
	Botm.	15.63	12.54	10.72	10.73	10.76	10.69
S ‰	0	31.64	30.75	30.50	30.35	30.64	30.88
	10	30.75	30.77	30.57	30.46	30.72	31.13
	25	30.91	32.34	31.98	32.30	32.66	32.59
	50	31.67	33.40	33.37	33.69	33.69	34.00
	100	—	—	—	—	—	—
	150	—	—	—	—	—	—
	200	—	—	—	—	—	—
	300	—	—	—	—	—	—
	Botm.	33.01	33.96	34.00	33.89	33.78	34.22
Depth (m)		99	96	92	82	81	83
Secchi (m)		18	18	21	16	12	12
Color		—	—	—	—	—	—
Sea		7	6	6	6	6	6
Swell		3	3	3	3	3	3
Air Temp. (°C)		22.8	24.3	24.1	24.0	24.0	23.9
Baro. (mm)		768	768	768	768	768	768
Wind		E. 5	E. 5	E. 5	E. 5	E. 5	E. 5
Cloud		St. 4	St. 4	St. 4	St. 4	Ci. 5	Ci. 7
Weather		BC	BC	BC	BC	BC	BC

C. 312선 해양관측성적

Oceanographic Data, Line 312

Date		① April 1963					
Sta. No.		02	03	04	05	06	07
Day		25	25	26	26	26	26
Item	Time / Z(m)	2220	2340	0050	0210	0355	0510
T °C	0	11.90	11.80	10.90	11.60	11.60	11.50
	10	11.43	11.57	11.14	11.44	11.35	11.18
	25	11.36	10.03	10.66	11.25	11.22	11.13
	50	10.88	10.93	10.90	11.06	11.14	11.09
	100	—	—	—	—	—	—
	150	—	—	—	—	—	—
	200	—	—	—	—	—	—
	300	—	—	—	—	—	—
	Botm.	10.09	10.89	10.82	11.05	11.05	11.10
S ‰	0	33.48	33.86	34.20	33.82	34.33	34.69
	10	33.48	33.86	34.22	34.02	34.34	34.56
	25	34.22	34.25	34.52	34.09	34.54	34.63
	50	34.36	34.36	34.52	34.36	34.61	34.63
	100	—	—	—	—	—	—
	150	—	—	—	—	—	—
	200	—	—	—	—	—	—
	300	—	—	—	—	—	—
	Botm.	34.29	34.36	34.54	34.38	34.61	34.65
Depth (m)		70	75	68	75	99	93
Secchi (m)		—	—	—	—	—	—
Color		—	—	—	—	—	—
Sea		5	5	4	4	4	4
Swell		2	2	2	2	2	2
Air Temp. (°C)		13.1	13.0	12.7	12.5	12.2	12.7
Baro. (mm)		774	774	773.5	773.5	774	774
Wind		NW. 3	NW. 4	NW. 3	NW. 3	NW. 4	NW. 2
Cloud		St. 3	St 1	St. 1	St. 1	St. 1	St. 2
Weather		BC	B	B	B	B	B

Date		② May 1963					
Sta. No.		02	03	04	05	06	07
Day		25	25	25	25	25	25
Item	Time / Z(m)	1210	1100	0945	0836	0730	0557
T °C	0	14.40	14.40	14.30	14.30	14.00	13.70
	10	13.95	13.95	13.86	13.49	13.72	13.24
	25	12.77	12.90	11.29	12.82	13.00	12.46
	50	11.12	11.20	11.33	11.12	11.17	11.60
	100	—	—	—	—	—	—
	150	—	—	—	—	—	—
	200	—	—	—	—	—	—
	300	—	—	—	—	—	—
	Botm.	11.12	11.15	11.13	11.14	11.03	11.52
S ‰	0	32.88	32.76	32.85	32.92	32.76	32.85
	10	32.94	32.70	32.86	32.92	32.74	32.92
	25	33.31	33.10	33.89	34.04	33.10	33.50
	50	33.82	33.95	34.15	34.15	34.07	33.89
	100	—	—	—	—	—	—
	150	—	—	—	—	—	—
	200	—	—	—	—	—	—
	300	—	—	—	—	—	—
	Botm.	34.13	33.98	34.15	33.37	33.98	33.89
Depth (m)		65	75	70	75	96	93
Secchi (m)		16	17	16	16	14	13
Color		—	—	—	—	—	—
Sea		4	5	5	4	4	4
Swell		2	3	3	2	2	3
Air Temp. (°C)		16.5	15.5	15.0	15.0	14.6	14.5
Baro. (mm)		769	769	769	769	769	768
Wind		N. 5	N. 5	N. 5	N. 5	N. 7	N. 4
Cloud		Ci. 9	Cs. 8	Ci. 9	Ci. 9	Ci. 9	As. 9
Weather		C	C	C	C	C	C

③ September 1963						
01	02	03	04	05	06	07
6	6	6	6	6	6	7
1550	1730	1840	1950	2100	2210	0140
25.00	26.40	24.30	24.90	26.00	25.60	25.90
24.37	26.09	24.01	19.40	24.85	25.81	25.77
23.93	15.98	13.25	11.88	14.35	18.89	13.61
16.42	11.41	10.93	11.28	11.10	10.97	10.78
10.50	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
10.35	11.36	10.88	11.30	11.06	10.86	9.89
—	31.56	31.13	30.28	31.78	31.55	31.78
—	31.60	31.17	30.64	31.78	31.73	31.87
—	33.08	33.26	33.62	33.12	33.11	33.51
—	33.12	33.93	33.86	33.78	33.96	34.33
34.04	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
34.15	33.82	34.15	33.89	34.00	34.04	34.54
119	71	80	73	72	91	90
19	17	13.5	—	—	—	—
—	—	—	—	—	—	—
5	4	5	5	5	6	5
2	2	2	2	3	3	3
25.0	25.1	25.0	23.4	24.0	—	23.5
768	768	768	768	768	—	768
E. 4	E. 3	N. 3	N. 3	N. 3	N. 4	N. 4
Cu. 4	St. 4	Ci. 3	Sc. 4	Ci. 5	Ci. 5	St. 4
BC	BC	BC	BC	BC	BC	BC

D. 311선 해양관측성적

Oceanographic Data, Line 311

Date		① April 1963			
Sta. No.		04	05	06	07
Day		27	27	26	26
Item	Time / Z(m)	0950	0835	1130	0930
T °C	0	11.10	10.50	10.70	11.80
	10	11.24	10.88	11.20	11.31
	25	—	10.14	10.62	11.12
	50	—	10.08	10.58	11.01
	100	—	—	—	—
	150	—	—	—	—
	200	—	—	—	—
	300	—	—	—	—
	Botm.	10.65	10.02	10.58	10.91
S ‰	0	34.18	34.09	34.09	34.18
	10	34.18	34.11	34.18	34.25
	25	—	34.11	34.20	34.61
	50	—	34.13	34.33	34.65
	100	—	—	—	—
	150	—	—	—	—
	200	—	—	—	—
	300	—	—	—	—
	Botm.	34.27	34.13	34.67	34.81
Depth (m)		31	68	74	81
Secchi (m)		1	1.5	2	8
Color		—	—	—	—
Sea		4	4	3	4
Swell		2	2	2	2
Air Temp. (°C)		13.5	13.0	13.9	12.9
Baro. (mm)		771.5	771.5	775	774.5
Wind		SE. 5	SE. 5	N. 2	N. 3
Cloud		Ci. 8	Ci. 8	Ci. 2	Cs. 3
Weather		C	C	B	BC

② May 1963				③ September 1963			
04	05	06	07	04	05	06	07
22	22	23	23	9	9	7	7
1100	1315	0730	0900	1235	1115	0700	5015
14. 10	13. 80	13. 10	14. 60	21. 90	19. 80	22. 10	23. 10
13. 48	12. 76	13. 17	14. 13	19. 15	17. 68	20. 22	22. 61
—	12. 23	12. 33	12. 08	18. 51	17. 27	17. 90	16. 65
—	12. 19	12. 10	11. 66	—	16. 90	15. 83	11. 02
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
13. 09	12. 13	11. 52	11. 01	18. 09	16. 89	13. 29	11. 07
33. 71	33. 69	33. 78	33. 19	32. 56	32. 77	31. 74	31. 31
33. 71	33. 80	33. 80	33. 37	32. 63	33. 01	32. 30	31. 53
—	33. 80	33. 96	33. 89	32. 66	33. 04	32. 86	33. 22
—	33. 62	33. 86	34. 15	—	33. 30	33. 01	34. 25
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
33. 73	33. 91	34. 07	34. 24	32. 90	33. 33	33. 69	34. 36
31	78	84	86	30	7	89	90
2	4	4	15	3	3	11	—
—	—	—	—	—	—	—	—
3	3	4	5	3	3	4	5
1	1	2	2	1	1	2	2
19. 2	18. 1	15. 4	15. 3	24. 0	22. 5	22. 8	22. 1
767	764	767	764	768	768	768	768
NW. 3	ANW. 4	SE. 7	SE. 5	W. 2	W. 2	NE. 2	N. 3
Ci. 8	Ac. 10	Ci. 8	St. 5	Ci. 6	Ci. 7	Ci. 5	Ci. 5
C	C	C	BC	BC	BC	BC	BC

E. 310선 해양관측성적

Oceanographic Data, Line 310

Date		① April 1963				
Sta. No.		03	04	05	06	07
Day		29	29	29	29	29
Item	Time / Z(m)	1100	1215	1330	1437	1550
T °C	0	9.60	9.80	9.80	10.70	10.60
	10	8.92	9.43	9.16	10.36	10.09
	25	—	8.50	7.96	8.01	8.13
	50	—	8.32	7.67	7.75	7.73
	100	—	—	—	—	—
	150	—	—	—	—	—
	200	—	—	—	—	—
	300	—	—	—	—	—
	Botm.	8.97	8.32	7.60	7.80	5.59
S ‰	0	32.30	32.79	32.88	32.79	32.81
	10	32.38	32.85	32.88	32.83	32.81
	25	—	32.85	32.97	33.17	33.40
	50	—	32.95	33.04	33.24	33.59
	100	—	—	—	—	—
	150	—	—	—	—	—
	200	—	—	—	—	—
	300	—	—	—	—	—
	Botm.	32.36	32.95	33.04	33.28	33.66
Depth (m)		27	64	72	73	82
Secchi (m)		2	3.5	4.5	7	9
Color		—	—	—	—	—
Sea		5	5	6	6	6
Swell		3	3	3	3	3
Air Temp. (°C)		14.2	14.8	14.9	15.0	14.9
Baro. (mm)		771	771	771	770.5	770.5
Wind		N. 5	N. 5	NE. 5	NE. 5	N. 5
Cloud		Ci. 9	Cs. 8	St. 7	St. 7	Ci. 6
Weather		C	C	BC	BC	BC

② September 1963				
03	04	05	06	07
9	9	9	9	9
1700	1817	1920	2030	2140
25. 10	24. 40	24. 10	24. 50	24. 50
23. 09	22. 66	21. 12	24. 10	23. 93
—	17. 96	16. 86	19. 78	17. 76
—	15. 70	14. 64	14. 37	12. 73
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
18. 82	15. 29	14. 45	12. 91	11. 92
32. 34	32. 12	32. 09	32. 34	31. 91
32. 36	32. 36	32. 34	32. 34	31. 94
—	33. 08	32. 08	32. 97	32. 83
—	33. 51	33. 75	33. 48	34. 07
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
32. 94	33. 44	33. 75	33. 75	34. 11
30	63	71	77	84
2. 5	12	—	—	—
—	—	—	—	—
3	4	4	3	4
1	1	2	1	1
26. 0	24. 8	24. 0	24. 5	24. 5
767	767	768	767	768
N. 3	N. 2	N. 3	NNW. 3	NNW. 2
Cu. 4	Ci. 4	Cu. 3	Cc. 4	Ci. 3
BC	BC	BC	BC	BC

F. 309선 해양관측성적

Oceanographic Data, Line 309

Date		① May 1963						
Sta. No.		01	02	03	04	05	06	07
Day		2	2	2	2	2	2	2
Item	Time / Z(m)	0030	0130	0240	0420	0530	0640	0740
T °C	0	11.50	10.40	10.00	9.50	8.50	8.80	9.50
	10	10.35	9.54	9.29	7.94	8.59	8.98	9.65
	25	9.06	8.57	8.14	7.78	7.43	7.53	8.60
	50	—	—	—	7.60	7.29	7.28	7.18
	100	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—
	200	—	—	—	—	—	—	—
	300	—	—	—	—	—	—	—
	Botm.	8.48	8.49	7.91	7.70	7.72	7.27	7.12
S ‰	0	31.38	32.00	32.23	31.38	32.66	32.92	33.06
	10	31.42	32.00	32.25	32.47	32.74	32.92	33.08
	25	31.98	32.18	32.32	32.52	32.79	32.92	33.10
	50	—	—	—	32.54	32.83	32.92	33.10
	100	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—
	200	—	—	—	—	—	—	—
	300	—	—	—	—	—	—	—
	Botm.	32.16	32.20	32.43	32.54	32.85	33.99	33.13
Depth (m)		31	34	46	57	59	63	78
Secchi (m)		—	—	—	—	7	8	11
Color		—	—	—	—	—	—	—
Sea		3	3	3	4	4	4	4
Swell		2	2	2	2	2	2	2
Air Temp. (°C)		13.1	13.3	13.0	12.8	12.5	12.6	13.0
Baro. (mm)		771	771	771	772	772	773	772
Wind		W. 2	W. 2	W. 2	W. 2	W. 3	W. 3	W. 3
Cloud		St. 6	St. 5	St. 5	Sc. 5	St. 5	St. 5	Ci. 4
Weather		BC	BC	BC	BC	BC	BC	BC

② September 1963						
01	02	03	04	05	06	07
10	10	10	10	10	10	10
0825	0650	0540	0430	0320	0210	0100
23. 00	23. 20	23. 10	23. 60	24. 60	24. 90	24. 40
22. 64	23. 24	22. 96	23. 35	24. 11	24. 50	24. 16
—	18. 59	18. 23	18. 68	16. 26	19. 44	18. 34
—	—	—	—	15. 34	14. 06	14. 17
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
21. 73	18. 58	17. 42	15. 84	15. 18	13. 68	13. 58
31. 83	32. 45	32. 45	32. 48	32. 02	31. 74	31. 78
31. 94	32. 70	32. 48	32. 52	32. 16	31. 83	31. 74
—	32. 81	33. 01	32. 97	33. 37	32. 90	32. 94
—	—	—	—	33. 51	33. 69	33. 44
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
32. 23	32. 83	33. 04	33. 01	33. 55	33. 82	33. 44
28	38	44	56	61	71	76
7	17	—	—	—	—	—
—	—	—	—	—	—	—
5	4	4	4	4	4	4
2	2	2	2	2	2	2
24. 0	23. 0	23. 0	23. 2	24. 1	24. 2	24. 0
768	768	768	768	767	767	767
NE. 3	NE. 3	NE. 3	NE. 3	NW. 3	NW. 2	NW. 2
Cu. 4	Cu. 5	St. 3	Cu. 4	Cs. 3	Ci. 3	Ci. 4
BC	BC	BC	BC	BC	BC	BC

G. 308선 해양관측성적

Oceanographic Data, Line 308

Date		① May 1963						
Sta. No.		01	02	03	04	05	06	07
Day		2	2	2	2	2	2	2
Item	Time / Z(m)	1725	1620	1515	1410	1300	1150	1045
T °C	0	10.10	10.30	10.40	10.30	10.00	9.40	10.00
	10	9.51	8.40	7.73	8.59	8.39	8.86	9.08
	25	—	—	7.43	6.95	6.82	6.55	6.41
	50	—	—	—	—	6.74	6.35	6.38
	100	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—
	200	—	—	—	—	—	—	—
	300	—	—	—	—	—	—	—
	Botm.	8.84	8.00	7.15	6.85	6.86	6.55	6.33
S ‰	0	32.20	32.21	32.36	32.38	32.70	32.65	32.83
	10	32.20	32.23	32.43	32.48	32.72	32.65	32.83
	25	—	—	32.47	32.57	32.72	32.70	32.94
	50	—	—	—	—	32.76	32.83	32.99
	100	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—
	200	—	—	—	—	—	—	—
	300	—	—	—	—	—	—	—
	Botm.	32.21	32.29	32.54	32.57	32.74	32.90	32.99
Depth (m)		20	27	45	45	65	63	75
Secchi (m)		6	7	4.5	8	8	8	10
Color		—	—	—	—	—	—	—
Sea		4	3	3	4	3	4	4
Swell		2	2	2	2	2	2	2
Air Temp. (°C)		16.0	16.4	16.6	16.3	15.7	15.1	14.2
Baro. (mm)		772.5	773	773	773	773	773	773
Wind		W. 3	W. 3	W. 3	W. 2	W. 2	W. 2	W. 2
Cloud		St. 4	St. 3	St. 4	St. 5	St. 1	Ci. 2	Ci. 2
Weather		BC	BC	BC	BC	B	B	B

② September 1963

01	02	03	04	05	06	07
15	15	15	15	15	15	15
0850	1000	1105	1210	1315	1425	1535
22.70	22.40	24.90	25.00	25.00	24.70	24.50
22.68	21.04	24.61	24.00	25.02	24.40	24.27
—	—	20.60	19.87	18.84	18.11	19.46
—	—	—	—	14.47	15.86	13.10
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
21.97	20.05	15.71	14.91	14.37	14.67	12.94
32.02	32.48	32.09	32.14	31.87	31.98	31.74
32.05	32.74	32.12	32.20	31.94	32.20	32.02
—	—	32.81	32.95	32.92	32.79	32.76
—	—	—	—	33.69	33.46	33.75
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
32.16	32.94	33.37	33.44	33.71	33.62	33.78
18	25	45	51	62	60	69
4	13	18	20	17	16	16
—	—	—	—	—	—	—
4	4	4	4	4	5	5
1	1	2	2	2	2	3
24.0	23.9	24.1	24.8	25.0	24.1	25.0
776.5	767	765	765	765	765	765
S. 4	S. 5	S. 4	S. 5	S. 5	S. 5	S. 5
Ci. 8	Ci. 7	Ac. 8	Cc. 6	Cu. 6	Cu. 6	Cu. 7
C	BC	C	BC	BC	BC	BC

H. 307선 해양관측성적

Oceanographic Data; Line 307

Date		① May 1963					② September 1963			
Sta. No.		03	04	05	06	07	04	05	06	07
Day		8	7	7	7	7	15	15	15	15
Item	Time / Z(m)	0135	2350	2245	2145	1940	2310	2200	2045	1945
T °C	0	8.30	8.50	10.00	10.60	11.00	23.00	24.00	24.40	24.60
	10	8.28	9.15	7.64	9.91	8.37	21.35	23.87	24.28	24.35
	25	7.76	8.09	6.82	6.58	6.30	18.96	20.49	19.16	16.26
	50	—	—	—	—	—	—	—	—	—
	100	—	—	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—	—	—
	200	—	—	—	—	—	—	—	—	—
	300	—	—	—	—	—	—	—	—	—
	Botm.	7.72	8.08	6.64	6.19	6.25	18.30	15.50	13.26	12.80
S ‰	0	32.02	31.96	32.03	32.36	32.38	32.14	32.02	32.00	31.85
	10	32.03	32.02	32.20	32.39	32.45	32.65	32.11	32.07	31.98
	25	32.12	32.02	32.39	32.50	32.50	32.68	32.76	32.77	33.31
	50	—	—	—	—	—	—	—	—	—
	100	—	—	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—	—	—
	200	—	—	—	—	—	—	—	—	—
	300	—	—	—	—	—	—	—	—	—
	Botm.	32.12	32.03	32.39	—	32.48	32.97	33.24	33.71	33.71
Depth (m)		43	32	46	54	49	22.8	46	56	52
Secchi (m)		—	—	—	—	—	—	—	—	—
Color		—	—	—	—	—	—	—	—	—
Sea		3	3	3	3	3	6	6	6	6
Swell		2	2	2	2	2	3	3	3	3
Air Temp. (°C)		15.0	15.5	15.9	16.0	16.2	22.8	22.8	23.0	24.0
Baro. (mm)		769	769	769	768	768	765	763	763	763
Wind		S. 2	S. 2	S. 3	S. 3	S. 2	SW. 5	SW. 5	SW. 5	SW. 5
Cloud		Cs. 8	Ci. 10	Cs. 10	Ci. 9	Ci. 9	St. 10	Ci. 10	St. 10	Ci. 10
Weather		C	R	R	R	R	R	R	R	R

I. 306선 해양관측성적

Oceanographic Data, Line 306

① May 1963

01′	02′	03	04	05	06	07
7	7	7	7	7	7	7
0930	1043	1135	1240	1345	1455	1605
10.00	10.50	10.30	12.00	11.60	11.60	9.90
9.03	—	—	—	—	—	10.16
8.91	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
8.84	10.13	9.03	11.40	11.11	11.06	9.32
31.33	30.77	30.75	28.93	29.38	30.23	31.11
31.40	—	—	—	—	—	31.13
31.35	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
31.47	30.75	30.48	28.89	29.45	30.75	31.15
36	8	8	10	13	17	31
2		1.5	2	1.5	3.5	3
—	—	—	—	—	—	—
2		2	2	2	2	3
1	1	1	1	1	1	1
16.5	16.8	16.9	17.0	17.2	17	17.1
770	770	771	770	769	769	769
NW. 3	NW. 2	NW. 3	NW. 2	S. 2	S. 2	S. 2
Ci. 4	Ci. 6	St. 6	Cs. 8	St. 8	St. 7	Ci. 9
BC	BC	BC	C	C	BC	R

부 유 생 물 조 사 성 적

PLANKTON DATA

1 9 6 3

浮游生物調査

本場 및 支場에서 海洋觀測時 採集한 資料를 檢索 調査한 結果는 다음과 같다.

1. 採集網 및 方法

採集網은 海洋調査年報 第11號와 같이 中井式 Plankton Net(㊊ B型)을 使用하여 定量 採集하였으며 採集方法은 水深 50 m에서 表面까지 1~2分間의 速度로서 垂直 採集하여 3~5%의 홀마링으로 固定하였다.

2. 採集된 試料의 處理方法

上記 Net로서 採集한 試料에 對해서 大型인 水母類 및 甲殼類를 除去하고 重量法에 依하여 濕重量을 測定한後 標本分割器로서 等分割하였으며 分割한 그 一部分을 摘出하여 顯微鏡下에서 檢索 計數하였다.

Plankton Collections

Plankton samples were collected at the hydrogaphic stations of sectional lines in the adjacent seas of Korea. The results are as follows.

1. Plankton Net used for vertical haul:

NAKAI'S Plankton Net (MARUTOKU Net- "B") ; Mouth diameter 45cm, front section length 15cm of canvas material, bag-length 86cm, conical shape, material Müllergage No. GG 54. The net was hauled from the depth of 50 m to the surface for one or two minutes at each station. Samples were settled with 3~5 percent Formalin, and brought to the laboratory for examination.

2. Method of Analysis ;

Samples were collected with above mentioned plankton net and measured as wet weight, but large planktons, such as Hydromedusae, Scyphmedusae, Salpa and Doli olum, were excepted.

The sub- samples were made by whirring apparatus, then the species were counted with microscope.

A. 105선 부유생물조사성적

Plankton Data, Line 105, 1963

Month	March						July		
Station	03	04	05	06	07	08	03	04	05
Date	5	5	5	5	5	5	18	18	18
Time	10. 45	12. 10	13. 40	16. 05	18. 40	20. 15	13. 50	12. 45	12. 00
Biomass (mg/m^3)	66. 4	31. 2	53. 9	79. 1	158. 2	257. 6	28. 6	59. 0	118. 0
Rate of subsample	1/4	1/2	1/2	1/4	1/10	1/10	1/6	1/8	1/8
Collected depth	50	50	50	50	50	50	50	50	05
Total Organisms	250	219	493	235	470	140	586	756	360
ZOOPLANKTON									
Copepoda larvae		4							
Calanus cristatus		2				3	1		
C. finmarchicus	2	41		120		72	5	2	6
C. gracilis	55			6	14				
C. plumchrus	67		36		51		1	5	3
C. juv							29	26	5
C. larvae				8		7			
Eucalanus attenuatus	14								
E. elongatus	19		1		13				
Pseudocalanus elongatus	54	142	411	43	259	27	427	403	85
Paracalanus parvus			3				27	110	156
P. aculeatus							4	29	
P. sp				11	13	12			
Clausoalanus arcuicornis	16				26				
C. sp			8	9		3			
Metridia lucens			4	6			18		1
M. sp					37	3			
Acartia clausi								3	6
Oithona plumifera	7	4							
O. similis	4								
O. sp			9	26	29	3	65	155	95
Euphausia sp						1			
Mecynocera sp		5		4	10	1			
M. clausi			6						
Amphipoda sp	4	11	5	2	6	4	1	12	1
Sagitta delicata	4	6	2		6	3			
S. sp							7	8	1
Oikopleura longicauda								3	1
O. sp					3	1			
Medusae sp					1				
Glaucothoe larvae							2		
Zoea stage		1							
Mysis larvae	4	3							

Month	July			August						
Station	06	07	08	03	04	05	06	07	08	09
Date	18	18	18	18	18	18	18	18	18	18
Time	10. 15	08. 15	06. 35	06. 08	06. 45	07. 45	10. 00	12. 00	14. 15	16. 05
Biomass (mg/m³)	37. 6	41. 41	60. 0	18. 1	31. 2	69. 6	12. 4	40. 0	27. 7	35. 0
Rate of subsample	1/6	1/6	1/6	1/2	1/4	1/6	1/2	1/6	1/4	1/4
Collected depth	50	50	50	45	50	50	50	50	50	50
Total Organisms	557	617	542	620	833	771	517	689	660	802
ZOOPLANKTON										
Copepoda sp									21	
C. nauplius larvae				8	5					1
C. larva				50	59	36	10	23		5
Calanus sp				15	43					
C. finmarchicus	7	4	12						2	
C. helgolandicus				8	21	99	11	4	4	4
C. plumchrus	7	3	11				8		1	1
C. tenuicornis			1					5	14	9
C. juv	12	27	27							
Pseudocalanus elongatus	201	274	69		270	283	20	307	100	81
Paracalanus parvus	90	185	268	285	296	167	163	229	290	302
P. nanus			1							
P. aculeatus			20							
Clausocalanus sp								1		
Ctenocalanus longicornis							1			
Scolecithricella minor						2	17	7	3	33
Metridia lucens	11	2	14			10	31	22	33	33
Acartia clausi	4	5	13						37	21
Oithona sp	202	84	72							
Labidocera japonica							5			
Oncaea venusta		1								
Corycaeus japonicus								7		10
C. gibbulus										3
C. sp			1							
Tortanus discaudatus				2						
Evadne tergestina				14	3	22	61	3		
Penilia schmackeri				1						
Podon Schmackeri				2	2					
Euphausia sp						1			1	12
E. larval stage				12	3					1
Lucifer hanseni									1	1
Nyctiphanes australis				9	1	1		2	2	6
Parathemisto sp					3	11	6	4		2
Thalassinid sp				3	1					
Amphipoda sp	6	15	4			14	82	2		1
Noctiluca scintillans										4
Sagitta delicata	1									
S. sp		1	2						10	12
S. larvae				152	2	8	19	5		11
Oikopleura longicauda	15	14	26				16	24		
O. sp				38	62	16	6		2	4
Glaucothoe larvae	1	2								
Polychaeta larvae					2					1
Gastropoda larvae								1		
Fish larvae						1	1			
Fish egg									1	1
Pelagic egg				1	26	3	4			

B. 104선 부유생물 조사성적

Plankton Data, Line 104, 1963

Month	May							July	
Station	04	05	06	07	08	09	10	15	16
Date	6	6	6	6	6	6	6	15	15
Time	12. 45	12. 00	10. 10	08. 55	06. 50	04. 29	02. 10	15. 15	14. 35
Biomass (mg/m^3)	13. 8	13. 8	12. 5	41. 4	41. 4	45. 1	429. 0	—	—
Rate of subsample	1/2	1/4	1/6	1/6	100	1/2	1/10	1/6	1/6
Collected depth	50	50	50	50	50	—	—	50	50
Total Organisms	420	324	336	200	530	243	274	607	436
ZOOPLANKTON									
Calanus cristatus							4		
C. finmarchicus	8	8		20	1			12	3
C. plumchrus	29	1		15	6	1	49	1	
C. tenuicornis						3			
C. larvae		4	3		8			52	24
Eucalanus elongatus	9				2	1			
Paracalanus parvus	37	69	68	27	31	64	22	140	115
Clausocalanus arcuicornis			1						
Pseudocalanus elongatus	194	133		70	410	1	68	49	18
Euchaeta sp							1		
Metridia lucens							20	13	27
M. sp	1		2	13	1				
Candacia bipinnata						1			
Acartia clausi					1	2	6	37	24
Oithona sp	54	26	16	11				374	203
Corycaeus concinnus					1				
C. sp	38	31	16	14	6	16		7	
Oxycephalus sp	2	1	1			1			
Evadne Nordmanni					1				
E. sp			1						
Mccynocera clausi			1	2					
Amphipoda sp				4			10	12	5
Noctiluca scintillans	9	7	200	6	48	132			
Oikopleura longicornis								49	9
O. sp	22	29	14	10	6	9			
Sagitta delicata	11				6	4			
Nauplius stage		8				5	8	2	
Undinula vulgaris	3				2				
Mysis larvae	1	3		4		3			
Pelagic egg	2	4	13	4			96		

Month	July			August						
Station	18	19	20	04	05	06	07	08	09	10
Date	15	15	20	20	20	20	20	19	19	19
Time	11. 05	09. 15	07. 20	06. 00	03. 20	2. 10	0. 30	22. 00	20. 00	18. 15
Biomass (mg/m⁻¹)	—	—	—	23. 8	25. 0	31. 2	76. 4	61. 6	61. 6	37. 6
Rate of subsample	1/8	1/6	1/8	1/4	1/2	1/2	1/4	1/4	1/6	1/4
Collected depth	50	50	50	50	50	50	50	50	50	50
Total Organisms	487	567	746	822	812	603	1158	853	803	798
ZOOPLANKTON										
Copepoda sp	33	28	52							
Calanus cristatus		2					2			
C. finmarchicus	1	10		3	19	18	30	80	12	9
C. plumchrus	10	14	22		3	8	2			
C. tenuicornis					2	1				
C. larvae	18		12				85			
Eucalanus sp										2
Paracalanus parvus	103	76	70	205	236	63	320	314	157	209
Clausocalanus arcuicornis		22			3					
Pseudocalanus elongatus	85	114	376	65	94		156	115	165	4
Euchaeta larvae										1
E. sp										1
Scolecithricella orientalis							18	3		
Metridia lucens	4	1	1	7	53	28	100	105	1	
M. sp							28			
Candacia bipinnata									1	1
C. larvae										9
Acartia clausi	1	8	7			4	8		120	13
Oithona sp	223	281	190	85	190	122	335	110	95	215
Oncaea venusta									1	33
C. sp	1				11	3		6	19	44
Oxycephalus clausi					2					
Evadne sp				269	41	13			13	105
Conchoecia sp						5	4	11		
Euphausia sp							1		1	
Lucifer hasneni						1				
L. sp										2
Mesycrocera sp								2		
Amphipoda sp	4	3	13	3	28	38	10	34	8	
Nyctiphanes larvae					1		2	2	29	23
Muggiaea sp										1
Obelia sp										1
Noctiluca scintillans				30						
Oikopleura cophocerca	2						30	19		34
O. fusiformis									24	
O. rufescens					6					
O. longicauda				19		5				
O. sp				10						
Sagitta delicata				48	22	3	12	13	14	16
S. enflata					6					
S. sp	2	3	9	16		5				4
Megalopa larvae					1					
Nauplius stage				18					8	23
Zoea stage						3				
Naushonia sp			1	1						
Pelagic egg					8	18	13	11	99	12
fish larvae stage					1				3	

C. 103선 부유생물 조사성적

Plankton Data, Line 103, 1963

Month	May							July		
Station	04	05	06	07	08	09	10	04	04′	05
Date	6	6	6	6	6	7	7	14	14	14
Time	16. 20	17. 25	18. 40	20. 26	22. 50	01. 00	03. 10	08. 30	13. 40	09. 05
Biomass (mg/m^3)	8. 8	22. 4	62. 6	51. 4	53. 8	280. 0	216. 0	70. 3	20. 6	130. 6
Rate of subsample	100	1/4	1/40	1/6	1/10	1/10	1/20	1/8	1/4	1/8
Collected depth	50	50	50	50	50	50	50	50	50	50
Total Organisms	393	392	529	359	584	324	392	908	632	881
ZOOPLANKTON										
Copepoda larvae	19		1	4	18	20	11			
C. nauplius larvae	1		3	8	12		23			
C. sp	13	5								
Calanus finmarchicus	4	7	4		10				4	2
C. plumchrus						61	12	3	9	9
C. cristatus						1	1			
C. juv								25	29	12
C. sp						2				
Eucalanus sp	7									
Paracalanus parvus	92	160	17	100	111	37	9	90	186	80
P. aculeatus								38		19
Pseudocalanus elongatus	9	56	4			33	22	659	70	69
Euchaeta marina						1				
Scolecithricella minor									1	
Centropages abdominalis	6	2								
Metridia lucens	5				3	122	32			
Candacia armata		1			1					
Acartia clausi				25	9			4	19	5
A. centrura					1					
Oithona similis	49		5	17	4	29				
Corycaeus japonicus					4					
C. speciosus			2							
C. sp	13	13	1	19	13	2	1		3	
Glaucothoe larvae									1	
Amphipoda sp								1	6	4
Evadne Nordmanni	8	3		15	12			6		
Podon Schmackeri				1				8		2
Conchoecia sp			1			1				
Euphausia pellucida				1	1		1			
Nyctiphanes australis	6	7	2	15	6	2				
Parathemisto larvae	1	1								
P. oblivia				1		2				
Noctiluca scintillans	19	79	525	64	202	3				
Muggiaea atlantica					5					
M. sp	2			2						
Fritillaria pellucida				2						
Oikopleura fusiformis	3	13	3	30	26	4				
O. dioica				16						
O. longicauda								21	1	
O. sp					1		7			
Sagitta enflata						1	1			
S. sp	1		4	4	2	1	2	6	3	2
Ophiopluteus sp				3	3					
Salpa fusiformis				1						
Tortanus discaudatus								1		
Nauplius larvae								8	12	9
Polychaeta larvae				4						
Balanus larvae				1	1					
Gastropoda larvae	1									
Pelagic egg	138	39	20	17	130	1		4	2	5
Fish egg		1			1					

Month	July			August						
Station	05	06	07	04	05	06	07	08	09	10
Date	14	14	14	20	20	20	20	20	20	20
Time	15. 25	10. 15	11. 30	09. 30	10. 10	11. 20	12. 50	14. 35	16. 20	18. 20
Biomass (mg/m^3)	59. 0	20. 0	313	—	7. 6	17. 6	22. 4	10. 0	18. 8	12. 5
Rate of subsample	1/8	1/6	1/6	100	100	1/4	1/4	1/2	1/4	1/2
Collected depth	50	50	50	50	50	50	50	50	50	50
Total Organisms	408	387	326	96	597	1085	632	561	485	682
ZOOPLANKTON										
Copepoda larvae							2	10		
C. nauplius larvae				1	7	1		3	1	1
C. juv				4	9	9			6	4
Calanus finmarchicus	3	8	8				2	1		
C. plumchrus	2	4	10			2	79	3		
C. cristatus	2									
C. juv		17	15							
C. tenuicornis						3		2		
C. sp						2			8	1
Paracalanus parvus		45	61	15	150	245	210	241	29	239
P. aculeatus	24	9								
Ctenocalanus longicornis	3									
Pseudocalanus elongatus	159	202	115		21	116	164	77	192	139
Euchaeta marina							2	5	6	2
Centropages yamadai				1						
C. furcatus									1	1
Metridia lucens	2					4	12	25	12	13
Acartia clausi	1	6	8					5		2
A. larvae										2
Corycaeus japonicus								15	12	9
C. gibbulus									2	2
C. sp			6							
Labidocera japonica				1	1					
Glaucothoe larvae	1									
Amphipoda sp	6	7	8							
Evadne tergestina				4	198	82	34	13	8	10
Penilia schmackeri									2	1
Nyctiphanes australis				1	9	4		26	13	5
Parathemisto sp						1	1	11	2	4
Noctiluca scintillans					64	12	5	29	104	141
Oikopleura fusiformis					26	10	24	18	35	72
O. longicauda	21		23		1	7				
O. sp				1			4			
Sagitta sp	3	2	1							
S. larvae				13	6	6	7	7	6	15
Brachyura larvae					1					
Nauplius larvae	1	1	1							
Gastropoda larvae					1		1			1
Pelagic egg	1	1		51	42	2		3	11	1
Fish larvae						1	2			

D. 102선 부유생물 조사성적

Plankton Data, Line 102, 1963

Month	April					May					
Station	04	05	06	07	08	04	06	07	08	09	10
Date	3	3	3	3	3	7	7	7	7	7	7
Time	06. 05	06. 41	07. 35	09. 35	11. 35	15. 30	14. 10	12. 35	10. 40	08. 20	06. 10
Biomass (mg/m³)	119. 4	77. 8	128. 1	162. 0	285. 0	57. 6	31. 2	33. 8	74. 0	114. 2	180. 0
Rate of subsample	2/10	1/10	1/10	1/10	1/10	1/20	1/4	1/4	1/10	1/20	1/10
Collected depth	30	50	50	50	50	50	50	50	50	50	50
Total Organisms	376	338	613	1050	632	917	641	511	691	614	502
ZOOPLANKTON											
Copepoda larvae						3	53	7	8	6	11
C. nauplius larvae						1	23	1	8	7	14
C. sp	8	4	18	11							
Calanus finmarchicus	31	47	89	56	32	4	52		6		
C. plumchrus		4			130						14
C. tenuicornis	10										
C. sp										4	
Eucalanus sp	3						3				5
Paracalanus parvus	59			105		28	169	129	156	52	74
P. sp		72	86		57						
Nannocalanus minor			1								
Calocalanus pavo									15		
Pseudocalanus elongatus	115	68	1	18	272					2	
Clausocalanus sp	62										
Centropages abdominalis	3		6	3	6						
C. calaninus	12										
C. sp		42		23	24						
Metridia lucens	1							1		1	3
M. sp					3						
Candacia armata							2		2	2	
Acartia clausi	6	7			12	2	9	1	2		
A. sp	17	32	28	22							
Oithona nana						17	34		15		
O. similis										14	377
O. plumifera							16	15	12	4	2
O. sp	10	6			22						
Corycaeus sp	4	30	43	39	17						
Oncaea venusta			4								
Amphipoda sp	23	1			4						
Evadne nordmanni						17	1		10		
E. sp		2	7								
Podon Schmackeri							2				
Conchoecia sp								1			
Nyctiphanes australis							37	6			
Parathemisto oblivia								3			1
Noctiluca scintillans						815	60	8	290	445	
Muggiaea atlantica			11	3				1			
M. sp											1
Sagitta larvae						2		3		1	
S. delicata	3		7	14	11						
S. sp							13		3		2
Oikpleura fusiformis							23	9	16	20	
O. longicauda				11							
O. dioica							34	2	8	3	2
O. sp			7			4					
Fritillaria pellucida							4				
Balanus larvae							1	1			
Macrurus sp							3				
Polychaet larvae										1	
Ophiopluteus sp									1	1	
Mysis stage		3	32	41	11						
Nauplius stage		2	38	9	9						
Zoea stage					3						
Gastropoda larvae								3	2		
Pelagic egg	8	18	235	695	19	26	70	4	3	1	
Fish egg							1				

Month	July				August						
Station	04	05	06	07	04	05	06	07	08	09	10
Date	13	13	13	13	21	21	21	21	21	20	20
Time	07. 25	08. 00	08. 40	09. 55	06. 25	05. 40	04. 12	02. 45	01. 00	23. 05	21. 15
Biomass (mg/m³)	57. 6	27. 5	13. 8	21. 2	5. 0	1. 2	30. 0	32. 4	33. 8	13. 7	22. 0
Rate of subsample	1/8	1/6	1/2	1/4	1/2	100	1/6	1/2	1/4	100	1/2
Collected depth	50	50	50	50	50	50	50	50	50	50	50
Total Ogarnisms	578	496	498	498	876	101	664	633	776	866	632
ZOOPLANKTON											
Copepoda larvae					5	2	20	8			8
C. juv										11	
C. nauplius larvae									2	8	1
Calanus finmarchicus										2	
C. plumchrus			4					26		2	
C. tenuicornis			1						3		4
C. helgolandicus			20	2	1		27				
C. juv	21		11	8							
C. sp		54		12				1	28	50	13
Eucalanus attenuatus			1								
Paracalanus parvus	185	95	216	102	131	41	215	201	254	200	229
Pseudocalanus elongatus	75	233	110	153	2	2	103	72	86	59	35
Clausocalanus arcuicornis			3	5							
Ctenocalanus longicornis									1		1
Euchaeta sp									1		
Scolecithricella minor							1	8	5	4	2
Centropages abdominalis				4							
C. furcatus										1	2
C. yamadai											1
C. sp	7										
Metridia lucens							8	29	35	48	20
Acartia clausi	50		16	145				1		2	5
A. centrura										1	3
Oithona plumifera					56		207	119	126	25	26
O. sp	66	74	59	47							
Labidocera japonica									1		
L. sp										1	
Corycaeus sp	9			2							
C. japonicus					1		1			12	13
Oncaea venusta											2
Euphausia pellucida								3			
E. larval stage					1	2	2		1	2	5
Amphipoda sp	1	34	9								
Thalassinid sp					1						
Gaetanus sp									1	2	
Evadne tergestina					66	7	10	40	26	12	36
E. Nordmanni	19										
Penilia schmackeri							1			2	40
Podon Schmackeri	98									6	13
Lucifer hanseni											2
Conchoecia sp								1	1	1	
Nyctiphanes australis	4				1	2	1		3	8	18
Parathemisto sp					1	1	6	25	4	2	6
Noctiluca scintillans					429		40	59	128	337	79
Helizoa sp										1	
Obelia geniculata											1
Sagtta larvae					103		4	5	13	20	24
S. delicata	6		4								
S. sp		1		3				1			
Oikopleura fusiformis					62	33	14	32	48	33	32
O. longicauda					3					28	
O. dioica					2				1		
O. sp	16		9	3							
Lingula larvae					2						
Balanus larvae					1						
Ophiopluteus larva										2	1
Nauplius stage	16	22	1								
Pelagic egg	6	16		3			2			2	2
Fish egg						1					
Fish larvae					3		2	2			

E. 209선 부유생물 조사성적

Plankton Data, Line 209, 1963

Month	March					April				
Station	04	05	06	07	08	04	05	06	07	08
Date	5	5	5	5	5	3	3	3	3	3
Time	16.40	17.50	19.05	20.30	22.50	19.00	18.30	16.05	14.10	14.25
Biomass (mg/m³)	83.8	62.7	47.8	97.9	23.8	155.0	97.9	38.8	111.7	159.4
Rate of subsample	1/10	2/10	2/10	2/10	1/2	1/10	1/10	1/4	1/10	1/10
Collected depth	45	50	50	50	50	40	50	50	50	50
Total Organisms	844	693	319	434	920	321	369	464	718	534
ZOOPLANKTON										
Copepoda larvae	27	102	62	17	98	73	107	181	88	110
C. nauplius larvae	6		9	2	1		21	7	6	
C. juv	8	17	5	9	40					
Calanus tenuicornis					1					
C. finmarchicus	4	1		12	6	5	1	16	3	77
C. cristatus		1								
C. sp	10									
Eucalanus subtenuis										1
Paracalanus parvus						145	77		41	252
P. sp	530	359	140	156	517			66		
Centropages abdominalis			2			6	8	21	25	6
C. typicus			2	6						
C. sp					5					
Metridia lucens	1			46	10					
C. armata						2	2			
Oithona plumifera						9	8	3	1	
O. nana							3			
O. sp	230	167	39	83	139					2
Oncaea venusta	1	2	5			1				
C. sp	10	6	24	54	54	26	11	25	29	6
Harpacticus unirèmis	1									
Evadne tergestina			4							
E. Nordmarnni							21	16		
Podon Schmackeri							4	5		
Conchoecia sp						3	2	1		
Euphausia pellucida			1	4	1	2				
Fritillaria formica		1								
Nyctiphanes australis	5	1	4		2	19	17	49		
Parathemisto oblivia		2	1	4	2			1		
Noctiluca scintillans							48	9	126	3
Globigerina bulloides				1		2				
Muggiaea sp			3	6		7	9	4	15	2
Oikopleura fusiformis				2						
O. rufescens			3							
O. dioica				3		3	1		25	28
O. sp			3	7	1	7	5	6		
Sagitta sp	1	2	1	1	2	1	1	1		1
Echinopluteus larvae									1	
Balanus larvae	6	12	3	3						
Gastropoda larvae	1	1		1						3
Ophiopluteus sp			3	3			2		2	
Macrurus sp								1	4	
Polychaeta larvae				5	1	4	1	1	1	
Pelagic egg			2	14	35		7	49	244	1
Brachyura larvae			1							
Salpa fusiformis					1			1		1
Fish egg								1		2

Month	May						July				
Station	04	05	06	07	08	09	04	04'	05	06	07
Date	13	13	13	13	13	13	12	12	12	12	12
Time	03. 35	08. 20	09. 56	11. 25	13. 30	15. 20	14. 35	19. 50	15. 15	16. 25	18. 00
Biomass (mg/m^3)	25. 0	12. 5	18. 8	47. 6	76. 6	56. 4	27. 8	39. 6	33. 8	55. 2	40. 0
Rate of subsample	1/6	1/4	1/4	1/6	1/20	1/20	1/4	1/4	1/6	1/6	1/6
Collected depth	50	50	50	50	50	50	35	50	50	50	50
Total Organisms	471	392	438	762	502	402	359	935	741	1063	492
ZOOPLANKTON											
Copepoda larvae	6	18	22	14	2	9	6	27	11	14	16
C. nauplius larvae	8	1	1	3	3		1	2	13	40	5
C. juv											
Calanus tenuicornis											
C. finmarchicus			3	1			2	5			
C. helgolandicus								17			9
C. hyperboreus								2			
C. darwinii											
C. sp											
Eucalanus subtenuis								1			
E. sp											
Rhincalanus nastus							1				
Acrocalanus gracilis											
Paracalanus parvus	100	87	80	176	80	112	148	416	325	232	115
Calocalanus pavo											
Pseudocalanus elogatus				37	9	2	19	56	16		
Ctenocalanus longicornis								2			3
Euchaeta juv											
Scolecithricella minor								8	1		
Centropages abdominalis							4	1		2	
C. sp	3		1								
Temora stylifera											
T. turbinata											
Metridia lucens								15			
Candacia armata juv											3
C. armata											4 2
C. larvae				1		1					
Labidocera japonica											
Acartia clausi	22	46	40	8	4	33	75	22	48	68	37
A. larvae	8	5	2								
Tortanus discaudatus							1				
Oithona plumifera				2	3	4	33	106	106	85	50
O. nana	39	6	6	2	3						
O. similis											
O. sp											
Microsetella sp											
Setella gracilis											
Clytemnestra rostrata											
Lucicutia flavicornis											
Oncaea venusta											
Corycaeus japonicus							2	4	4	7	19
C. gibbulus								1	2	7	4
C. venustus	74	35									
C. speciosus											
C. sp			20	38	16	28					
Sapphirina stellata			1								
Evadne tergestina							2			55	27
E. Nordmanni	7	13	11		39		22	2	18	95	31
Podon Schmackeri	2					16	2		6	25	11
Penilia schmackeri							3		2	5	21

August						December			
04	05	06	07	08	09	04	05	06	08
22	22	22	22	22	22	13	13	13	13
06. 00	06. 37	07. 50	09. 00	10. 50	12. 40	08. 00	18. 45	12. 10	14. 25
10. 0	3. 8	4. 4	2. 5	2. 5	3. 8	9. 2	8. 8	10. 0	13. 1
1/2	100	100	100	100	100	100	100	100	1/2
50	50	50	50	50	50	50	50	50	50
826	342	1225	150	328	405	316	767	614	428
21									
5	1	4	4	8	5	4		15	15
	9	28	5	17	6	22	40	22	39
		2							
							1		
		23	2	2	5		22		
							1	2	4
371	141	474	52	73	130	131	12 602	195	155
									3
		19	1		3				
					1				
	2	2							1
							1		
			2	3	1				
						4	2	2	
								2	1
4		2		1	2				
	1	1	4	30	12	11	3	1	
4	8	28	9	22	53	6	6	37	22
			4						
		4							
				1				1	
							1		
				11	5	45	5 31	1 31	3 31
					2			14	3
							2	2	
157	40	101	14	2	40				
			1	2	1				
24	14	15	4	11	5				

Month	May						July				
Station	04	05	06	07	08	09	04	04	05	06	07
Date	13	13	13	13	13	13	12	12	12	12	12
Time	03. 35	08. 20	09. 56	11. 25	13. 30	15. 20	14. 35	19. 50	15. 15	16. 25	18. 00
Biomass (mg/m^3)	25. 0	12. 5	18. 8	47. 6	76. 6	56. 4	27. 8	39. 6	33. 8	55. 2	40. 0
Rate of subsample	1/6	1/4	1/4	1/6	1/20	1/20	1/4	1/4	1/6	1/6	1/6
Collected depth	50	50	50	50	50	50	35	50	50	50	50
Total Organisms	471	392	438	762	502	402	359	935	741	1063	492
ZOOPLANKTON											
Conchoecia sp	3										
Euphausia pellucida								1			
E. larva stage							7	3	19	11	
Fritillaria pellucida											
Lucifer hanseni											
L. larvae											
Nyctiphanes australis	1	9	6		3	4	21	5	21	13	5
Parathemisto sp								7			2
Thalassinid larvae							1			1	
T. sp											
Noctiluca scintillans	158	135	240	381	177	97	1		3		5
Pyrocystis noctiluca	1			3	1					4	
P. fusiformis	1										
Muggiaea atlantica			2							2	
M. sp		1		5		2					2
Obelia geniculata				1		1					
Oikopleura fusiformis		2	3	7	2						
O. longicauda							6	220			
O. dioica	6	6	7								
O. sp	9			2	4	1			11	16	5
Sagitta larvae							1	1	1	4	5
S. enflata											
S. sp	12	1	2	2	1	2					
Balanus larvae	1	2					1	3		34	1
Gastropoda larvae								2			
Ophiopluteus larvae											
O. sp				1	1						
Macrurus sp	1	2	1								
Polychaeta larvae											2
Stegosoma magnum											
Lingula larvae											
Siphonautes borealis											
Pelagic egg	8	4	6	42	148	88		3	129	334	96
Brachyura larvae										1	
Doliolum sp			1								
Euterpe sp							1				
Pandalid larvae											
Salpa fusiformis	1	3	4	1							
Fish egg		2		2	5	2					
Fish larvae											
Scale											
Engraulis japonica egg							2			7	8
E. japonica larvae									1	1	6

August						December			
04	05	06	07	08	09	04	05	06	08
22	22	22	22	22	22	13	13	13	13
06. 00	06. 37	07. 50	09. 00	10. 50	12. 40	08. 00	18. 45	12. 10	14. 25
10. 0	3. 8	4. 4	2. 5	2. 5	3. 8	9. 2	8. 8	10. 0	13. 1
1/2	100	100	100	100	100	100	100	100	1/2
50	50	50	50	50	50	50	50	50	50
826	342	1225	150	328	405	316	767	614	428
		1		4					
		1	1	1					
								2	2
13	12	4	2	23	13	5	32	7	3
		1							
						1	1		
80	41	301	29	44	75				
						6	5	40	28
		1		1					
33	13	31	1	4	3				
	51	45		23	7				8
109	38	31	3	11	14				2
				1	1				
					1			3*	
					2				
	1								1
						1		20	7
	1			9	1				
				1					
					1			1	2
	12	14	12	22	16	78	1	206	87
									1
5	2	1							
						2	2		

F. 208선 부유생물 조사성적

Plankton Data, Line 208, 1963

Month	March				Apirl				
Station	01	03	04	05	01	02	03	04	05
Date	3	3	3	3	4	4	4	4	4
Time	07. 35	09. 35	10. 50	12. 00	08. 45	09. 35	10. 38	11. 45	12. 50
Biomass (mg/m³)	26. 4	35. 0	21. 3	22. 5	128. 1	110. 6	72. 8	145. 0	69. 0
Rate of subsamole	1/2	1/4	1/4	100	1/10	1/10	1/4	1/10	1/4
Collected depth	50	50	50	50	50	50	50	50	50
Total Organisms	541	599	796	822	524	548	687	301	430
ZOOPLANKTON									
Copepoda larvae	38	24	46	100	107	192	256	107	71
C. sp	56	53	35	5					
C. nauplius larvae	23	6	3	7	6	12	8	6	13
Calanus finmarchicus	6	4			38	10	13		
C. tenuicornis			2						
C. juv									
C. larvae									
C. helgolandicus									
Eucalanus attenuatus									
E. sp									
Rhincalanus nasutus									
Paracalanus parvus									135
P. sp	202	181	530	502	200	51	105	64	
Pseudocalanus elongatus									
Ctenocalanus longicornis									
Euchaeta marina juv				1	1				
E. larva									
Scolecithricella minor									
Centropages abdominalis	4	2			14	36	15	14	3
C. typicus		2							
Metridia lucens									
Candacia armata				1	1				
C. bipinnata									
C. armata larvae									
Acartia clausi		1		1					
Oithona plumifera									4
O. sp	89	131	124	158	7	7	1	7	
O. similis									19
Oncaea venusta	5	5	3	1	1				
Clytemnestra scutellata	1								
Corycaeus gibbulus									
C. venustus									8
C. japonicus									
C. sp	83	68	34	28	48	14	31	17	13
Evande Nordmanni					1	51	26	21	4
E. tergestina									
Penilia schmackeri									
Podon Schmackeri							9	4	2	21
Conchoecia sp	7	1	1	1	8		4		
Euphausia sp	7	4	1						
E. pellucida									
E. stage									
E. larvae									
Nyctiphanes australis					25	17	36	10	6
Thalassinid larvae									
Parathemisto larvae			1	1					
Amphipoda sp									
Noctiluca scintillans					37	50	92	17	78
Muggiaea atlantica									7
M. sp					4	1	19	8	

May					
01	02	03	04	05	06
14	14	13	13	13	13
03. 00	01. 00	23. 30	21. 50	20. 30	19. 00
22. 5	133. 2	37. 6	45. 1	113. 0	125. 6
1/6	1/20	1/6	1/8	1/12	1/40
50	50	50	50	50	50
126	291	232	208	297	301
3			2		
6	2	10			
3					
	13	14		1	24
			2		
		1			
54			78		79
	70	85		18	
					1
		1			
5	17	20	4		14
	43			1	
4		7	10		6
		1			
2	22	21	13	1	45
39		24	64	59	68
				2	8
	1				
			1	1	
2	55	16	11	200	12
1					

July					
01′	01	02′	02	03	04
12	11	11	12	12	12
11. 20	06. 00	13. 00	11. 20	08. 15	09. 40
80. 4	12. 5	35. 6	21. 8	43. 4	15. 0
1/2	1/8	1/4	1/4	1/6	1/2
50	50	50	50	50	50
706	532	1099	670	538	290
24	22	53	25	21	9
5	20	12	8	1	2
	1				
3	7	3		1	4
1					
3			3	4	1
97	182	540	111	34	55
	38	82			
7	1		7	8	14
1			2		1
	3				
	1				
		2	2		
3	1				
67	35	52	82	62	44
203	66	149	158	302	75
7	1				5
3		2	4	2	
4	9	10	29	2	2
51	8	3	30	45	34
56	6		41	15	21
63			14	10	70
6	3	1	23	4	3
	2		1		
	5				
			5		6
3	5	17	7	1	8
3				1	
	2				
26		16	3	1	58
				3	1

Month	March				April				
Station	01	03	04	05	01	02	03	04	05
Date	3	3	3	3	4	4	4	4	4
Time	07. 35	09. 35	10. 50	12. 00	08. 45	09. 35	10. 38	11. 45	12. 50
Biomass (mg/m^3)	26. 4	35. 0	21. 3	22. 5	128. 1	110. 6	72. 8	145. 0	69. 0
Rate of subsample	1/2	1/4	1/4	100	1/10	1/10	1/4	1/10	1/4
Collected depth	50	50	50	50	50	50	50	50	50
Total Organisms	541	599	796	822	524	548	687	301	430
ZOOPLANKTON									
Obelia geniculata									
S. sp	1	2	3	4				2	
S. delicata					1				
S. larvae									
Oikopleura sp	3						25	10	10
O. fusiformis		11	7	9					
O. rufescens				3					
O. dioica					15	10			
Polychaeta larvae	5		1		5	2	2	1	
Macrurus sp		1			1				1
Ophipluteus larvae		1			2	2		3	3
Balanus larvae	11	3							
Brachyura larvae					1				
Pyrocystis noctiluca							1		
Fritillaria pellucida									
Engraulis japonica larvae									
E. japonica egg									
Echinospira sp									
Nauplius larvae									
Mysis larvae									
Salpa fusiformis					1		2	1	2
S. sp						4			
Pelagic egg		4	5	2		51	47	10	30

May					
01	02	03	04	05	06
14	14	13	13	13	13
03. 00	01. 00	23. 30	21. 50	20. 30	19. 00
22. 5	133. 2	37. 6	45. 1	113 0	125. 6
1/6	1/20	1/6	1/8	1/12	1/40
50	50	50	50	50	50
126	291	232	208	297	301
3	1		6	1	4
	3	3	3	1	
19	6	16	7	1	10
6	2	8	4	1	9
1	1	1	1		
17	16	4	4	9	22

July					
01′	01	02′	02	03	04
12	11	11	12	12	12
11. 20	06. 00	13. 00	11. 20	08. 15	09. 40
80. 4	12. 5	35. 6	21. 8	43. 4	15. 0
1/2	1/8	1/4	1/4	1/6	1/2
50	50	50	50	50	50
706	532	1099	670	583	290
1				1	20
	2				
7	9	6	26	17	11
25	8	5	12	19	17
	4	8			
	1	2			
1					5
	1				
1	40	7	8	1	10
			2	6	6
1			1	8	9
11	7		20	4	4
23			33	9	8
					1
			2		
	39	130	4	2	1

Month	August						December					
Station	01	02	03	04	05	06	01	02	03	04	05	06
Date	22	22	22	22	22	22	12	12	12	12	12	13
Time	23. 25	21. 40	20. 20	17. 10	18. 10	16. 50	10. 15	11. 20	12. 50	14. 30	16. 10	10. 10
Biomass (mg/m³)	2. 0	2. 4	5. 0	6. 9	10. 0	15. 6	0. 2	7. 6	10. 0	7. 6	11. 3	0. 3
Rate of subsample	100	100	100	100	1/2	1/2	100	100	1/2	100	1/2	100
Collected depth	50	50	50	50	50	50	50	50	50	50	50	50
Total Organisms	98	203	614	304	474	527	84	478	293	442	315	365
ZOOPLANKTON												
Copepoda nauplius larvae		4			1	4						
C. juv	2	2	3	4		14						
Calanus finmarchicus		1										
C. tenuicornis					1							
C. juv								23			26	31
Eucalanus sp						1						
Paracalanus parvus	25	64	55	29	46	48	47	278	151	204	157	131
Pseudocalanus elongatus	1	3										
Euchaeta marina juv				1								
Centropoges furcatus			1		2	3						
Temora stylifera		1	2		3		2	1				2
Metridia lucens		1										
Candacia armata			1									
C. bipinnata								2			1	
C. armata larvae		1										
C. larvae				8	1							
Acartia clausi	9	7	21	11	9	2	1	4			11	13
A. centrura	1	1	3	4	9	5						
Oithona plumifera	23	22	19	110	45	24						
O. sp							9	38	60	79	13	12
Setella gracilis					1							
Microsetella rosea		1										
Lucicutia flavicornis			1									
Oncaea venusta			7	2	1	4		1		17	1	
Sapphirina opalina			1			1						
Corycaeus gibbulus					2	3						
C. japonicus	3	4	5	7	4	3						
C. sp							20	26	38	74	53	71
Copilia mirabilis					1							
Evadne tergestina	2	10	43	2	26	19						
Penilia schmackeri		1	47	15	47	162						
Podon Schmackeri		6	19	3	13	63						
Conchoecia sp				1	1					2		
Lucifer hanseni		4	8	6	9	10						
Nyctiphanes australis	2	3	1		2	2	2					
Amphipoda sp								1		2		
Noctiluca scintillans	17	21	314	37	203	76						
Muggiaea sp		1	2		7	1						
Sagitta enflata	1	1		1	2							
S. larvae	5	12	10	16	7	14						
Oikopleura sp	3								35	9	4	
O. fusiformis	2	19	13	10	8	14		13				
Polychaeta larvae		2	3									
P. sp					1							
Macrurus sp				1	2							
Ophiopluteus larvae			2	1		6						
Balanus larvae				1	1	1						
Brachyura larvae				1								
Bivalves larvae		2										
Solmaris corona		6										
Liriope tetraphylla			1									
Fritillaria pellucida			3		10	41						
Solmundella bitentaculata			4	3								
Magelona japonica larvae				4								
Siphonautes borealis				1								
Lingula larvae						2						
Nauplius larvae							4	12	9	8	14	29
Pelagic egg	2		20	3	10			79		47	34	66

G. 207선 부유생물 조사성적

Plankton Data, Line 207, 1963

Month	February					March				
Station	01	02	03	04	05	01	02	03	04	05
Date	2	2	2	2	2	7	7	7	7	7
Time	10. 12	11. 08	12. 03	13. 05	13. 50	17. 50	17. 10	16. 25	15. 20	14. 40
Biomass (mg/m^3)	1. 4	0. 5	7. 6	11. 3	8. 9	42. 6	111. 8	167. 0	42. 6	103. 0
Rate of subsample	100	100	100	1/2	100	1/4	1/10	1/10	1/2	2/10
Collected depth	50	50	50	50	50	50	50	50	50	50
Total Organisms	172	42	326	595	466	75	101	209	367	298
ZOOPLANKTON										
Copepoda larvae			8					1	1	
C. nauplius larvae								9	4	
C. sp	26	3		34	18		7			23
Calanus finmarchicus								2		
C. helgolandicus				6		1				
C. tenuicornis				14		2	2			9
Eucalanus sp		1								
Paracalanus parvus	74	22	132	397	245	34	38			123
P. sp								99	189	
Pseudocalanus elongatus										7
P. sp				8	5					
Centropages abdominalis								7	2	
C. furcatus						1				
C. sp							6			2
Metridia sp							1			
Candacia armata								1	1	
Acartia clausi									1	
Oithona similis	4	2		24	23	5	9			26
O plumifera	17		41	29	41	5	12			21
O. sp								33	36	
Oncaea venusta	6	1	9	23	9			1	3	11
Corycaeus sp	26	6	122	47	83	15	16	19	72	52
Evadne tergestina								1	1	
E. sp	3	7		3	1					
Podon Schmackeri									2	
Cavolina inflexa					3					
Nyctiphanes australis								8	7	
Muggiaea atlantica									4	
Sagitta delicata					2					
S. sp								1		
Oikopleura dioica									5	11
O. fusiformis								4	2	
O. sp					2	4	5			
Ophiopluteus larvae									1	2
Polychaeta larvae									3	
Mysis stage				7	3					1
Nauplius stage				3	2	4	4			12
Brachyura larvae								1	1	
Zoea stage	6			3	3					
Salpa fusiformis								1	1	
S. sp						2				
Pelagic egg	6		12							6

Month	April					July				
Station	01	02	03	04	05	01	02	03	04	05
Date	4	4	4	4	4	9	9	9	9	9
Time	21. 30	20. 45	19. 45	18. 50	18. 10	11. 00	11. 50	12. 35	13. 48	14. 30
Biomass (mg/m^3)	207. 8	99. 1	33. 8	5. 0	52. 6	64. 4	66. 4	37. 0	53. 8	60. 3
Rate of subsample	1/10	1/10	100	100	1/10	1/6	1/6	1/6	1/6	1/6
Collected depth	50	50	50	50	50	50	50	50	50	50
Total Organisms	669	448	403	98	157	651	558	466	663	459
ZOOPLANKTON										
Copepoda larvae	87	80	96	14	33	34	40	30	11	19
C. nauplius larvae	3	20	12	47	4	20	11	1	1	2
C. juv										
Calanus finmarchicus	97	23	57	1	3					
C. helgolandicus						6			3	4
C. plumchrus						5				
C. cristatus										
C. minor										
C. darwinii										
C. sp										
Eucalanus elongatus										
E. sp										
Acrocalanus gracilis										
Paracalanus parvus						402	110	46	38	86
P. sp	111	47	713	36	65					
Calocalanus pavo										
C. plumulosus										
Clausocalanus arcuicornis								1		1
Ctenocalanus longicornis						4	2	6	7	18
Pseudocalanus elongatus										
Euchaeta flava						1	2			
E. marina juv										
Scolecithrix danae										
S. bradyi										1
Centropages abdominalis	74	28	5		1		1			
C. furcatus										
C. calaninus										
Temora stylifera										
T. discaudata										
Metridia lucens										
Candacia armata	1	2	1			2	1	1		2
C. larvae										
Calanopia eliptica										
Acartia clausi		3				21	187	77	183	88
A. centrura										
A. danae										
Tortanus forcipatus										
Oithona plumifera							64	114	241	215
O. sp	4		2		2	13				
Setella gracilis										
Clytemnestra scutellata										
C. rostrata										
Oncaea venusta								2		7
Corycaeus japonicus						38	15	6	6	9
C. speciosus										
C. gibbulus						7	6			
C. sp	46	22	12	7	4					
Sapphirina gastrica										
S. nigromaculata										
Copilia mirabilis										
Euterpe acutifrons										
Evadne Nordmanni	2	21	2		5	4	6	34	75	37
E. spinifera						1				
E. tergestina										9
Podon Schmackeri			2		2	2	10	29	25	10

August					December				
01	02	03	04	05	01	02	03	04	05
24	24	24	24	24	19	19	19	19	19
10. 10	10. 55	12. 45	12. 45	13. 15	10. 20	11. 15	12. 15	13. 10	14. 00
14. 0	33. 8	43. 1	28. 8	32. 4	6. 4	9. 2	11. 6	10. 0	8. 8
1/2	1/4	1/4	1/4	1/2	100	1/2	1/2	100	1/2
50	50	50	50	50	50	50	50	50	50
1027	806	600	660	458	435	127	191	316	332
10	25	19	7	17					3
	4	5	8	8	6	6	11	5	
					75	29	30	17	14
5		2							
3	1	5	7	7					
	9								
				1					
				1					
					2			2	
			1	2					
							1	1	1
					21	8		32	78
547	368	141	167	72	73	10	38	132	150
			20	15			1	1	2
								1	5
			3	3					
				2					
			4						
		11	1	1					
					1	1			
			1	1					
2					1				
		1	6	7					
				1					
	4	13	16	14					
	1		3	3					
									2
		5	8	3					
	3								
			1	1					
35	43	25	49	21	9	1			2
	2	1	3	1					
				2					
1									
44	56	117	111	82	22	17	26	44	45
			1	1					
					3				
	1								
	2	11	55	43	29	21		7	4
23	18	11	12	15	118	26	26	15	8
				1	4			1	1
	4	8	5	2	6		1		
		1	1						
				1					
	1			1					
	1								
54	30		14	8					
14	6	10	2						

Month	April					July				
Station	01	02	03	04	05	01	02	03	04	05
Date	4	4	4	4	4	9	9	9	9	9
Time	21. 30	20. 45	19. 45	18. 50	18. 10	11. 00	11. 50	12. 35	13. 48	14. 30
Biomass (mg/m³)	207. 8	99. 1	338	5. 0	52. 6	64. 4	66. 4	37. 0	53. 8	60. 3
Rate of subsample	1/10	1/10	100	100	1/10	1/6	1/6	1/6	1/6	1/6
Collected depth	50	50	50	50	50	50	50	50	50	50
Total Organisms	669	448	403	98	157	651	558	466	663	459
ZOOPLANKTON										
Podon Leuckarti							4			
Penilia schmackeri							15	43	13	163
Conchoecia sp		1								
Noctiluca scintillans	254	95	11	11	10	4			3	
Parathemisto oblivia			2		1					
P. larvae			6	1						
P. sp						2				
Thalassinid sp										
Euphausia pellucida	1	12	6				1			
E. sp										
Lucifer raynaudii										
L. hanseni										
L. typus										
L. larvae										1
L. sp										
Fritillaria haplostoma			1							
F. pellucida							18	25	11	23
Nyctiphanes australis	10	13	12	3	2	7	2	2	1	1
Pyrocystis noctiluca		1								10
Muggiaea atlantica		8				2	1	3	4	
M. sp					2					
Obelia geniculata									4	1
Bivalves larvae										
Sagitta enflata										
S. elegans						1	1			
S. delicata					1					
S. larvae						2	1	4		
S. sp			2			3		9	7	
Balanus larvae					1	14	19	5		19
Macrurus sp			1			1	2	1	3	
Diphyes sp										7
Oikopleura dioica	3		1		3	4				
O. sp						11	2		9	5
Ophiopluteus larvae										
O. sp	1	3								
Polychaeta larvae	3									
P. sp										
Brachyura larvae										
Gastropoda larvae						1				
Echinopluteus larvae							1			
Engraulis japonica egg							27	37	5	3
E. japonica larvae								1		5
Liriope tetraphylla										
Siphonautes borealis										
Lingula larvae										
Doliolum denticulatum										
D. gegenbauri f. tritonis										
Salpa fusiformis		1	12	4	2					2
S. sp				2						
Pelagic egg		1	2	2	1	19				
Fish larval stage							6			

August					December				
01	02	03	04	05	01	02	03	04	05
24	24	24	24	24	19	19	19	19	19
10. 10	10. 55	12. 45	12. 45	13. 15	10. 20	11. 15	12. 15	13. 10	14. 00
14. 0	33. 8	43. 1	28. 8	32. 4	6. 4	9. 2	11. 6	10. 0	8. 8
1/2	1/4	1/4	1/4	1/2	100	1/2	1/2	100	1/2
50	05	50	50	50	50	50	50	50	50
1027	806	600	660	458	435	127	181	316	332
15	26	7	2	2					
1					1	2			
87	84	108	1						
					1				
			3	1	1				
							2		
2	1								
		5							
		19	10	20					
			1						
							1		
	1								
				2					
11	21	5		2	4				
			10	1	1	1	4	8	4
			5						
		11							
	1	2	4	1					
	1	1							
	5	7	12	9					
102	29	17	15	13		1			
1	6	2	1		4	1			
	17	11	30	25				9	8
			1	2					
51	7	18	26						6
3	3	2			2		7	1	2
2		2	3			7			
		7							
							1	1	
		1							
2									
	1								
		1			1				
		1							
			12						
				17					
	16								
8	5			1	40	4	29	42	2

H. 206선 부 유생 물조사성적

Plankton Data, Line 206, 1963

Month	April				August			
Station	01	02	03	04	01	02	03	04
Date	10	10	10	10	24	24	24	24
Time	17.00	10.18	10.20	21.55	21.15	20.05	58.45	17.30
Biomass (mg/m^3)	310.0	14.2	53.8	130.6	26.2	1.3	67.7	23.8
Rate of subsample	1/10	1/2	1/6	1/8	1/4	100	1/6	1/2
Collected depth	50	50	50	50	50	50	50	50
Total Organisms	411	311	311	216	707	97	438	578
ZOOPLANKTON								
Copepoda larvae	62	19	16	25	20	2	15	
C. nauplius larvae	5	6	5	2	12			14
C. sp			1					29
Calanus finmarchicus	37	3	13	10	7			2
C. helgolandicus							10	
C. tenuicornis								1
C. darwinii								9
C. sp								1
Eucalanus attenuatus								1
E. sp								8
Paraclanus parvus	87	41	28	90	387	10	72	64
Calocalanus pavo							1	8
Clausocalanus arcuicornis								7
Euchaeta marina juv								3
E. flava								2
E. larvae				5				
Centropages abdominalis	128	22	3					5
C. furcatus					4		1	20
C. gracilis								1
Temora stylifera					5		6	13
Candacia armata		3		5				
C. armata juv	2					1		2
Acartia clausi	1				87	29	48	26
A. centrura					2		4	4
A. danae								1
Oithona plumifera					16	37	123	131
O. similis	5							
O. sp		3	2					
Setella gracilis					1		1	2
Oncaea venusta						1	7	84
Corycaeus gibbulus							2	3
C. japonicus					24	1	17	15
C. sp	27	17	3	10				
Sapphirina gastrica							1	
S. angusta								2
Clytemnestra scutellata								1
Evadne Nordmanni		20	2	10				
E. tergestina	2	8	1		31	1	5	9
Penilia schmackeri					22	4	26	2
Podon Schmackeri					14	1	7	
Conchoecia sp								2
Euphausia pellucida				1				
E. sp	1							
Lucifer typus					9	2	4	
L. hanseni					3		3	2
Nyctiphanes australis	13	8	4	19	10	1	6	7
Parathemisto sp		2						
Thalassinid sp								1
Noctiluca scintillans	21	133	221	3		1	7	4
Sagitta elegans				1				

Month	APril				August			
Station	01	02	03	04	01	02	03	04
Date	10	10	10	10	24	24	24	24
Time	17. 00	10. 18	10. 20	21. 55	21. 15	20. 05	18. 45	17. 30
Biomass (mg/m^3)	310. 0	14. 2	53. 8	130. 6	26. 2	1. 3	67. 7	23. 8
Rate of subsample	1/10	1/2	1/6	1/8	1/4	100	1/6	1/2
Collected depth	50	50	50	50	50	50	50	50
Total Organisms	411	311	311	216	707	97	438	578
ZOOPLANKTON								
S. enflata							2	8
S. larvae			2	3	12	1	34	
S. sp		1						
Fritillaria sp								6
Pyrocystis noctiluca				1				
Muggiaea atlantica				11	2			
M. sp	7		5				9	8
Oikopleura dioica	4							
O. longicauda								5
O. megastoma							1	6
O. sp		3	3	13	3	4	12	19
Gastropoda larvae								5
Ophiopluteus larvae	1							
O. sp		2						
Polychaeta larvae	1				1	1	1	3
Brachyura larvae			1					1
Macrurus sp				1			2	1
Bivalves larvae					1			
Balanus larvae					30		2	
Diphyes sp							4	
Salpa fusiformis	2							
S. sp		18	1					
Pelagic egg				6	1		1	
Scale	1		1					

I. 205선 부유생물 조사성적

Plankton Data, Line 205, 1963

Month	APril						
Station	01	02	03	04	05	01	02
Date	11	11	11	11	11	1	1
Time	11. 20	12. 20	13. 28	13. 10	16, 55	15. 25	14. 25
Biomass (mg/m³)	64. 0	21. 8	60. 0	57. 6	46. 4	128. 5	65. 2
Rate of subsample	1/8	1/6	1/8	1/8	100	1/6	1/8
Collected depth	50	50	50	50	50	45	05
Total Organisms	87	35	63	38	191	547	487
ZOOPLANKTON							
Copepoda juv							
C. larvae	12	6	15	7	35	41	41
C. nauplius larvae		1	7	1	3	6	7
Calanus finmarchicus	1					164	15
C. helgolandicus							
C. minor							
C. vulgaris							
C. pauper							
C. sp						18	
Eucalanus subcrassus							
E. sp							
Paracalanus parvus	36	16	15	15	73	53	46
P. aculeatus							
Clausocalanus arcuicornis						1	2
C. pergens							
Calocalanus pavo							
Ctenocalanus longicornis							
Pseudocalanus elongatus							
Euchaeta flava						3	1
E. marina	1						
E. larvae						2	1
Scolecithricella sp							
Centropages abdominalis							
C. furcatus							
Lucicutia flavicornis							
Temora stylifera							
T. discaudata							
Candacia armata			1				
C. discaudata							
Labidocera japonica							
L. acuta							
Acartia clausi						57	240
Tortanus forcipatus							
Oithona similis	6	1	10	2	1		
O. plumifera					1		
O. fallax							
O. sp						26	25
Setella gracilis							
Oncaea venusta							4
Sapphirina stellata							
S. intestinata							
Corycaeus japonicus							
C. gibbulus							
C. speciosus							
C. sp	7		3		14	100	65
Evadne Nordmanni					4		
E. spinifera							
E. tergestina					6		
Penilia schmackeri							
Penaeid larva							

June				
03	04	05	07	08
1	1	1	1	1
13. 15	11. 25	09. 55	07. 30	08. 00
61. 5	87. 9	18. 1	33. 0	56. 3
1/6	1/10	1/2	1/6	1/6
50	50	50	50	50
519	375	446	540	712
37	12	7	13	40
14	9	2	21	32
8		2		1
12	17	4	12	16
77	58	71	69	192
3		15	20	2
	1	22	23	3
		1		
		2	3	
		1	3	5
169	152	21	118	336
				7
8	59	56	174	25
11				
		8	3	1
48	9	12	8	23
22	7	6		9
2		45	3	7
		71	5	

August				
01	02	03	04	05
30	30	30	30	30
07. 20	08. 35	09. 45	11. 25	13. 00
70. 3	71. 6	12. 4	55. 2	66. 4
1/4	1/6	100	1/4	1/4
50	50	50	50	50
694	666	787	717	498
2	16	77	100	15
	1			
20	1	5		16
				7
				2
165	37	35	1	
			59	12
				5
6	87	25		14
			96	31
			8	24
				2
				2
		1	10	29
			2	8
	1			5
3			1	2
		3	10	
1		1		
3	3	7	10	
				14
				5
10	7	20	6	63
	1	4	11	1
			1	6
				1
	1			2
50	74	91	41	1
1	1			24
37	7	11	54	29
1				
				1
			1	34
				4
28		24	30	4
				18
				1
				12
	10	7	30	23
2				
119	211	186	19	1
		1		

Month	April						
Station	01	02	03	04	05	01	02
Date	11	11	11	11	11	1	1
Time	11. 20	12. 20	13. 28	13. 10	16. 55	15. 25	14. 25
Biomass (mg/m³)	64. 0	25. 8	60. 0	57. 6	46. 4	128. 5	65. 2
Rate of subsample	1/8	1/6	1/8	1/8	100	1/6	1/8
Collected depth	50	50	50	50	50	45	60
Total Organisms	87	35	63	38	191	547	487
ZOOPLANKTON							
Podon Schmackeri				1			
P. Leuckarti					2		
Conchoecia sp	3	1					
Lucifer hanseni							
Nyctiphanes australis	3	1		1	7	23	10
Parathemisto sp							
Thalassinid sp						6	
Euphausia larvae							
E. sp							
Fritillaria pellucida							
Noctiluca scintillans	5	5	3	10	25		
Muggiaea atlantica	4						
M. sp			4	1	10		
Obelia geniculata							1
Sagitta elegans						3	
S. enflatae							
S. larvae						19	
S. sp				1	4		5
Oikopleura dioica	5	3		1		4	
O. fusiformis			1				3
O. sp							
Ophipluteus larvae							
O. sp					2		
Balanus larvae						19	3
Bivalves. larvae							
Gastropoda larvae							
Polychaeta larvae							
Pyrocystis noctiluca		1			2		
Stegosoma magnum							
Brachyura larvae							
Lingula larvae							
Desmopterus papilio							
Salpa fusiformis		1					
S. sp							
Diphyes sp							
Pelagic egg	4		2		2	18	16
Fish egg							
Fish larvae							

June					August				
03	04	05	07	08	01	02	03	04	05
1	1	1	1	1	30	30	30	30	30
13. 15	11. 25	09. 55	07. 30	08. 00	07. 20	08. 35	09. 45	11. 25	13. 00
61. 5	87. 9	18. 1	33. 0	56. 3	70. 3	71. 6	12. 4	55. 2	66. 4
1/6	1/10	1/2	1/6	1/6	1/4	1/6	100	1/4	1/4
50	50	50	50	50	50	50	50	50	50
519	375	446	540	712	694	666	787	717	498
					2	17	19	3	1
	1	1				2			
						15	29	112	31
6	16	25	7	7	20	6	31	37	1
					9	2	1	7	5
						1			1
							1	9	
				3					
									1
1		1			29	39	18	2	
					9	6	5	8	
				2					
					4			3	12
8	2				64	44	18	38	
7		7	2	6	1				
		4	34	11					2
5	11	13						3	
					21	20	3	37	28
					1	3		4	3
36	1			1		4	8	2	
1									
	1								
	1				2	2	1	5	5
					2	1			
					2		1	1	
							1		
									2
			7						
		43							
								5	
32	8	1	11	17	62	3	57	4	
	2	5	2						
									2

J. 204선 부유생물 조사성적

Plankton Data, Line 204, 1963

Month	April			May				September		
Station	04	05	06	04	05	06	07	04	05	06
Date	19	19	19	29	29	29	29	1	1	1
Time	09. 10	10. 25	11. 35	18. 40	17. 30	16. 15	11. 55	11. 25	12. 45	14. 05
Biomass (mg/m^3)	56. 4	138. 0	17. 6	30. 0	37. 6	55. 2	61. 5	45. 1	45. 1	79. 8
Rate of subsample	1/6	1/8	100	1/4	1/6	1/8	1/6	1/2	1/2	1/4
Collected depth	50	50	50	50	50	50	50	50	50	50
Total Organisms	266	524	485	395	298	313	577	624	545	504
ZOOPLANKTON										
Copepoda juv								16	13	12
C. larvae	18	34	20							
C. nauplius larvae		2							3	2
Calanus finmarchicus	18	41	50							
C. helgolandicus				6	5	5	8	14	28	12
C. gracilis									1	2
C. minor								2		
C. juv				19	13	9	21			
C. sp								16	6	7
Eucalanus attenuatus										1
E. sp							1			11
Paracalanus parvus	172	337	298	133	87	82	89	170	125	60
Acrocalanus gracilis								8	6	13
Calocalanus pavo								2		
Pseuocalanus elongatus				4						
Ctenocalanus longicornis								3	5	3
Euchaeta marina				3						
E. flava	1	3						37	8	3
E. larvae	1	2	3							
Scolecithrix sp			2							
Centropages abdomilnalis	3	3	6							
C. furcatus								2	3	4
C. calaninus				2						
Temora stylifera								8	6	12
T. discaudata								2	2	2
Metridia sp							1			
Pleuromamma abdominalis				4	4					
Candacia armata	1	3	1							
C. armata larvae								1	1	2
C. bipinnata							1			
C. sp				2						
Acartia clausi	8	37	26	93	37	78	328	61	36	72
Oithona similis	2	8								
O. plumifera	3	3						23	14	10
O. sp				68	47	28	85			
Setella gracilis									2	
Oncaea venusta		1				2	2	4	8	4
Sapphirina angusta			4						1	
S. gastrica									2	
S. sp										4
Corycaeus japonicus								15	10	10
C. speciosus								2		1
C. sp	16	13	38	7	3	18	6			
Labidocera bipinnata										1
Evadne Nordmanni				8	12	63	18			
E. tergestina								12	9	1
Podon Schmackeri										2
Conchoecia sp	2							1		
Euphausia sp								3	3	
E. larval stage									6	6

Month	April			May				September		
Station	04	05	06	04	05	06	07	04	05	06
Date	19	19	19	29	29	29	29	1	1	1
Time	09. 10	10. 25	11. 35	18. 40	17. 30	6. 15	11. 55	11. 25	12. 45	14. 05
Biomass (mg/m³)	56. 4	138. 0	17. 6	30. 0	37. 6	55. 2	61. 5	45. 1	45. 1	79. 8
Rate of subsample	1/6	1/8	100	1/4	1/6	1/8	1/6	1/2	1/2	1/4
Collected depth	50	50	50	50	50	50	50	50	50	50
Total Organisms	266	524	485	395	298	313	577	624	545	504
ZOOPLANKTON										
Amphipoda sp				2	1		1			
Nyctiphanes australis	8	13	10					12	136	140
Parathemisto sp	7	4	11					22	3	2
Frit illaria pellucida									3	5
Lucifer hanseni								5	2	
Thalassinid sp								3		15
Muggiaea atlantica								6	6	5
Obelia geniculata								80	9	13
Sagitta delicata				5	7	3				
S. larvae								17	10	18
S. sp	4	11	20							
S. bipunctata							7			
S. enflata								8	4	
Oikopleura dioica		3								
O. longicauda				5						
O. fusiformis								27	5	
O. rufescens				18						
O. sp	1				18	13	8			
Doliolum gegenbauri					32					
Pyrocystis noctiluca		3	2							
Brachyura larvae										2
Bivalves larvae									1	
Balanus larvae										1
Polychaeta larvae								1		
Doliolum denticulatum								25	52	25
Salpa fusiformis			2							
Diphyes bojani								10	5	4
D. sp				3		3				
Stegosoma magnum								5		
Echinopluteus larvae								3	1	5
Siphonautes borealis									3	3
Pelagic egg		4		9	14	6		2	7	
Scale	1									

K. 203선 부유생물 조사성적

Plankton Data, Line 203, 1963

Month	May		
Station	01	02	03
Date	28	28	28
Time	06. 25	06. 25	08. 00
Biomass (mg/m^3)	31. 3	96. 6	55. 2
Rate of subsample	1/6	100	1/6
Collected depth	50	50	50
Total Organisms	407	284	375
ZOOPLANKTON			
Calanus helgolandicus	2		
C. juv			31
C. sp	8	27	
Paracalanus parvus	195	137	115
Pleuromamma abdominalis			4
Acartia clausi	140	13	43
Oithona plumifera			80
O. sp	15	49	
Oncaea venusta		1	
Corycaeus sp	31	8	
Centropages furcatus	1		
Amphipoda sp	2		3
Nauplius larvae	2	13	3
Evadne tergestina		31	75
Sagitta delicata	1	2	
Oikopleura cophocerca	1		
O. sp			16
Fritillaria haplostoma	1		
Pelagic egg	6	3	4

L. 314선 부유생물 조사성적

Plankton Data, Line 314, 1963

Month	April									
Station	01	02	03	04	05	06	07	08	09	10
Date	24	24	24	24	24	24	24	24	25	25
Time	12. 05	13. 45	15. 30	17. 05	18. 45	20. 35	22. 10	23. 55	01. 35	03. 15
Biomass (mg/m³)	97. 6	146. 4	50. 7	141. 4	84. 0	102. 9	134. 5	308. 4	321. 4	588. 0
Rate of subsample	1/8	1/16	1/6	1/10	1/8	1/6	1/6	1/8	1/10	1/20
Collected depth	50	50	50	50	50	50	50	50	50	50
Total Orgnaisms	333	373	545	677	474	843	762	687	591	647
ZOOPLANKTON										
Copepoda larvae	22	14	15	56	28	22	21	55	15	21
C. nauplius larvae	2		1	5	1	8	3	1		1
Calanus finmarchicus	16	12	16	37	1	5	43	106	139	117
C. sp						4	5			
Eucalanus suborassus	1	1								
E. sp	5	4								
Clausocalanus arcuicornis		2	1			1				
Euchaeta flava			4	1			11	3	2	1
E. larvae			2	2		1	5		1	1
Scoleaithrix sp		1	1							
Sentropages kröyeri				2	2	15	4			
C. abdominalis									7	
C. sp			1					4		2
Pleuromamma abdominalis					1			2	2	1
Candacia armata	1	1								
Acartia clausi	25	42	35	47	48	195	70	192	113	175
A. larvae	3	6	5							
Oithona nana		2		2		2				
O. similis	5	28	8	28	22	27	5	3	2	5
O. sp	9	14	2	8	2	4	16	13	16	7
Oncaea venusta	11	7	8	3		2				
Sapphirina angusta			2							
Corycaeus. sp	14	5	10	8	14	33	9	10	12	31
Nyctiphanes australis	2	1	5	3	3	51	43	22	49	41
Evadne Nordmanni	5	42	6	23						
E. spinifera			8	64	1					
Podon Schmackeri	1									
Conchoecia sp	1	1				1	2			
Euphausia pellucida						5				
E. sp							3	6	1	1
Parathemisto oblivia		3								
P. larvae	4									
P. sp			1			9	24	14	35	18
Noctiluca scintillans		2		16						
M. sp	1							1		
S. elegans						2	2	3	2	2
S. sp	8	7	2	4	3	12	12	5		9
Oikopleura dioica					4					
O. sp					5					
Ophiopluteus larvae	2		1							
Pyrocystis noctiluca	2	1	2	7	1					
Doliolum denticulatum	5									
Bivalves larvae	1		1							
Polychaeta larvae	1					2				
Dolioletta sp			1							
Mysis sp										4
Salpa fusiformis				1			1			
Pelagic egg			5	19	7	9		2		

Month	May									
Station	01	02	03	04	05	06	07	08	09	10
Date	29	29	29	29	29	29	28	28	28	28
Time	09. 15	07. 40	05. 55	04. 45	02. 35	00. 55	23. 20	21. 40	19. 50	18. 15
Biomass (mg/m^3)	2. 5	61. 5	66. 4	135. 6	97. 9	100. 4	84. 0	50. 0	30. 0	40. 0
Rate of subsample	1/6	1/6	1/6	1/6	1/8	1/6	1/6	1/6	1/4	1/4
Collected depth	50	50	50	50	50	50	50	50	50	50
Total Organisms	601	607	443	358	398	478	550	475	377	492
ZOOPLANKTON										
Copepoda juv										
C. nauplius larvae										
Calanus finmarchicus										3
C. helgolandicus	34	18	34	154	26	49	90	8	3	65
C. pauper										
C. tenuicornis			1						1	
C. minor										
C. vulgaris										
C. gracilis										
C. darwinii										
C. juv	21	12	12	7	8	10	24	12	15	16
C. sp										
Eucalanus elongatus								1		
E. attenuatus									1	
E. subcrassus										
E. subtenuis										
E. sp										
Acrocalanus gracilis										
Rhincalanus sp										
Calocalanus pavo										
C. plumulosus										
Clausocalanus arcuicornis			1					1		
C. pergens										
Pseudocalanus elongatus			3	19	36	8		27	7	
Ctenocalanus longicornis										
Euchaeta marina										
E. marina juv		3								
E. flava										
E. sp	3		4	2				1		
Scolecithricella minor										
S. orientalis										
Scolecithrix sp										
Centropages kroyeri								1		
C. abdominalis				1	1	5	16	1		
C. furcatus										
C. sp									2	4
Temora stylifera										
T. discaudata										
Metridia lucens										
. longa							1			
						2				
Pleurommma abdominalis			3		1				2	
P. robusta								1		
Lucicutia flavicornis										
Heterorhabdus papilliger										
Candacia bipinnata	1									1
C. bradyi										
C. sp										
Labidocera japonica										
L. acuta										

September									
01	02	03	04	05	06	07	08	09	10
1	1	1	5	5	5	6	6	6	6
19. 05	21. 00	22. 45	20. 10	20. 00	23. 30	01. 10	02. 30	04. 00	05. 35
52. 6	26. 2	31. 4	110. 4	103. 0	28. 8	119. 3	52. 6	178. 2	528. 3
1/2	1/2	1/2	1/4	1/4	100	1/4	1/2	1/4	1/8
50	50	50	50	50	50	50	50	50	50
440	259	500	321	242	263	430	435	624	892
10	14	29	13	8	13	1	2	12	14
		7	6						
	2	1			3	9	6	4	12
21	16	13		34		7	2	28	18
4	8	25	10	4	11	5	10		3
1	6		6	11	15	9		6	3
1									
	3	1							
36	2	14	5	3	29	20	11	19	48
		3		1	1				
			4	9	3				
7	6	22							
7	12	12	8		3	7	2	4	12
9									
	3	12	2	1		3			
		1		1					
	8								
					1				
26	1	7			1				1
	1	8	4	14	13	9	8	2	1
			1	28	38	51	29	36	71
							23	20	48
	1	9	16	10					
		1							
			1						
	1								
14	10	15	4			3	4	2	
			1						
8	1	6	3		3		2	9	4
1				7	2				5
			3			1			
		1	3			1			
	1								
			1		1				
5	1	4							
7	1								
	1								
		2	3				1		

Month	May									
Station	01	02	03	04	05	06	07	08	09	10
Date	29	29	29	29	29	29	28	28	28	28
Time	09. 15	07. 40	05. 55	04. 45	02. 35	00. 55	23. 20	21. 40	19. 50	18. 15
Biomass (ml/m³)	2. 5	61. 5	66. 4	135. 6	97. 9	100. 4	84. 0	50. 0	30. 0	40. 0
Rate of subsample	1/6	1/6	1/6	1/6	1/8	1/6	1/6	1/6	1/4	1/4
Collected depth	50	50	50	50	50	50	50	50	50	50
Total Organisms	601	607	443	358	398	478	550	475	377	492
ZOOPLANKTON										
Acartia clausi	100	374	185	61	68	89	115	75	124	110
A. sp			10							
Oithona plumifera			75	28	80	197	115	175	105	105
O. sp	195	120								
Setella gracilis										
Clytemnestra scutellata										
Oncaea venusta								3		
Sapphirina angusta										
Corycaeus japonicus										
C. gibbulus										
C. speciosus										
C. sp	9	2	2			1	6	2		6
Nyctiphanes australis			1					1	1	
N. sp					2					
Evadne Nordmanni	4	2	1							
E. tergestina	12									
E. spinifera	38									
Podon Schmackeri										
Conchocia sp						2	1	1		
Euphausia sp		1	1	1		2	4			
Fritillaria pellucida										
Lucifer hanseni										
L. sp										
Parathemisto sp										
Thalassinid sp										
Leptochela sydniensis								1		
Amphipoda sp		5		6	8	10	11	4	3	6
Noctiluca scintillans										
Muggiaea atlantica										
Sagitta delicata		1		1	1	7	3		6	
S. minima										3
S. robusta						3	1			
S. enflata										
S. larvae										
S. sp	6		5							
O. longicauda										
O. sp	9	4						1		
Ophiopluteus larvae										
Pyrocystis noctiluca										
Brachyura larvae										
Bivalves larvae										
Polychaeta larvae										
Desmopterus sp										
Gastrosaccus indicus								1		
Siphonautes borealis										
Echinospira sp										
Mysis sp				1						
Salpa fusiformis										
S. sp									3	
Nauplius larvae					3		1	1	2	
Fritillaria sp										
pelagic egg								18	11	
Fish larvae										

September									
01	02	03	04	05	06	07	08	90	10
1	1	1	5	5	5	6	6	6	6
19. 05	21. 00	22. 45	20. 10	20. 00	23. 30	01. 10	02. 30	04. 00	05. 35
526	26. 2	31. 4	110. 4	103. 0	28. 8	119. 3	52. 6	178. 2	528. 3
1/2	1/2	1/2	1/4	1/4	100	1/4	1/2	1/4	1/8
50	50	50	50	50	50	50	50	50	50
440	259	500	321	242	263	430	435	624	892
7	4	14	20	19	21	50	48	116	129
15	5	18	13	7	6	11	36	10	1
2	1								
	1								
50	34	61	15	5	6	2			
				1					
11	6		4		3	2		14	29
17	10	5	6			1	7		
10	8	7							
				2					
11	10	3	16	20	12	2		4	1
16	3	25	6	1					
	2		1	1					
5	3	6	3		1	2	4	4	
	4		5	1	6	19	14	26	16
		2	29	6	1				
3	10	12							
			4	5	2	4			1
8	8	6	3	1	5	6	3	3	1
2			1	4	2	2			
							3		
		2							
				1				1	1
1		2	2			6	2	1	6
27	7	22						15	
			16	17	15	15	13		20
						2		2	
55	16	12	11	10	3			4	1
		1	1						
		3	11				3	1	12
		2	3	2			1		
	1							1	
4	3		1					1	
1		2							
				1					
		4						2	
1	5	39	12						
				27	9	3			
		2	29	6	1				
		2							2

M. 313선 부유생물 조사성적

Plankton Data, Line 313, 1963

Month	April							
Station	02	03	04	05	06	07	02	03
Date	25	25	25	25	25	25	28	28
Time	11. 40	10. 30	09. 20	08. 10	06. 58	05. 50	09. 55	11. 05
Biomass (mg/m³)	11. 2	67. 7	41. 3	119. 3	271. 6	184. 0	28. 8	38. 8
Rate of subsample	1/6	1/4	1/6	1/8	1/10	1/10	1/6	1/6
Collected depth	50	50	50	50	50	50	50	50
Total Organisms	357	483	525	635	631	460	235	414
ZOOPLANKTON								
Copepoda juv								
C. larvae	22	29	28	27	60	34		
C. nauplius larvae					2			
Calanus finmarchicus	9	50	10	15	36	50		
C. tenuicornis								
C. pauper								
C. helgolandicus							1	1
C. vulgaris								
C. minor								
C. sp								
Eucalanus attenuatus								
E. sp								
Acrocalanus gracilis								
A. gibber								
A. monachus								
Paracalanus parvus	112	67	229	325	243	140	104	136
P. aculeatus								
Calocalanus plumurosus								
C. pavo								
Clausocalanus arcuicornis								
Ctenocalanus longicornis							9	2
Pseudocalanus elongatus	3							
Euchaeta marina	1							
E. marina juv								
E. flava	1	1	3	1			8	
E. larvae	7	9	8	2	2			
E. sp							1	3
Scolecithrix sp	1							
Centropages abdominalis	4		11				2	
C. furcatus								
C. larvae	2			1				
C. sp					1			
Temora stylifera								
T. discaudata								
Pleuromamma abdominalis				1				
Candacia armata			2	1				
C. juv								
Acartia clausi	125	254	137	169	157	147	36	94
A. larva								
Oithona nana				2				
O. similis	13	32	11	21	10	21		
O. plumifera	12	7	12	6	3	3		
O. sp							31	164
Setella gracilis								
Oncaea venusta			1				2	2
Corycaeus japonicus								
C. venustus								
C. gibbulus								
C. sp	13	2	42	26	40	25	9	1
Sapphirina sp								

May				September						
04	05	06	07	01	02	03	04	05	06	07
28	28	28	28	6	6	6	6	6	6	6
12. 15	13. 20	14. 30	15. 40	15. 50	14. 10	13. 00	11. 55	10. 45	09. 25	08. 15
37. 6	38. 8	30. 0	33. 8	193. 1	37. 0	22. 4	25. 0	53. 9	187. 2	150. 6
1/6	1/6	1/4	1/4	1/6	1/2	100	1/2	1/4	1/6	1/6
50	50	50	50	50	50	50	50	50	50	50
358	543	367	383	385	600	601	616	744	686	422
				7	4	6	2	5	10	16
				1						
				2	1					
					2	4		1	2	2
	4	16	29			32	7	9	28	1
						9		1		
				2						
	4			27	18	46	49	72	36	12
2										
						1.				
					2	2				
						6			6	4
							7			
2	330	115	174	75	25	244	225	357	268	118
	7	4								
				1		6				
					3	5	1			1
2	5	2					1			
3	2	7	1		11	3	2			
							2			
				3	39	76	20	7	2	7
					5	23	7	2	5	11
1		1								
1	1	1								
				1	1		3	1		
				1	3				1	
	1			3					8	1
					1					
64	53	51	44	91	33	39	93	99	145	84
							7			
				3	1	1				
				2	38	20	90	50	39	40
110	85	50	90							
					1			1	1	
	1	3			2	1				
				4	9			66	93	30
					3					
									37	
2	8	12	5		1	22	70			
									1	1

Month	April							
Station	02	03	04	05	06	07	02	03
Date	25	25	25	25	25	25	28	28
Time	11. 40	10. 30	09. 20	08. 10	06. 58	05. 50	09. 55	11. 05
Biomass (mg/m^3)	11. 2	67. 7	41. 3	119. 3	271. 6	148. 0	28. 8	38. 8
Rate of subsample	1/6	1/4	1/6	1/8	1/10	1/10	1/6	1/6
Collected depth	50	50	50	50	50	50	50	50
Total Organisms	357	483	525	635	631	460	235	414
ZOOPLANKTON								
Evadne Nordmanni						1		
Conchoecia sp								
Fritillaria pellucida								
Lucifer sp								
Thalassinid sp								
Amphipoda sp							2	7
Nyctiphanes australis	7	3	13	11	59	17		
Parathemisto oblivia	17	23	1	2		2		
P. larvae			8	10	9	3		
P. sp								
Pyrorocystis noctiluca								
Obelia geniculata								
Muggiaea atlantica								
M. sp								
Sagitta delicata							1	1
S. minima							1	
S. enflata								
S. bipunctata								
S. larvae								
S. sp	6	5	3	10	5	7		
Brachyura larvae								
Gastropoda larvae								
Diphyes sp								
Nauplius larvae								
Thalia democratica								
Salpa fusiformis			1					
S. maxima							1	
S. sp								
Doliolum denticulatum				1				
Pelagic egg	1	1					2	
Scale	1							
Engraulis japonica egg								

May				September						
04	05	06	07	01	02	03	04	05	06	07
28	28	28	28	6	6	6	6	6	6	6
12. 15	13. 20	14. 30	15. 40	15. 50	14. 10	13. 00	11. 55	10. 45	09. 2.	08. 15
37. 6	38. 8	30. 0	33. 3	193. 1	37. 0	22. 4	25. 0	53. 9	187. 2	150. 0
1/6	1/6	1/4	1/4	1/6	1/2	100	1/2	1/4	1/6	1/6
50	50	50	50	50	50	50	50	50	50	50
358	543	367	383	385	600	601	616	744	686	422
	1					1		1		1
					19					
				5		1		2		
					1	1				
5	2	11	9							
				2	3	1	1	1	1	1
				10	38	13	15	19	11	7
				4			2	3	10	6
				18						
				3	1	3				4
							3		2	
			1							
				10	3				5	4
2										
							7	40	92	50
	1			13	15	10	5	1		
				2						1
					1	2				1
									6	4
	9	1								
					1	6	2			
				8	24	4				9
	5	72	11							
3	21	8	4	7	10	7	1			
				23					5	

N. 312선 부유생물조사성적

Plankton Data, Line 312, 1963

Month	April							
Station	02	03	04	05	06	07	02	03
Date	25	25	26	26	26	26	25	25
Time	22. 25	23. 45	00. 55	02. 25	03. 55	05. 15	12. 10	09. 45
Biomass (mg/m^3)	21. 2	28. 8	95. 4	612. 0	179. 0	79. 0	32. 5	72. 8
Rate of subsample	1/2	1/2	1/6	1/10	1/8	1/4	1/4	1/8
Collected depth	50	50	50	50	50	50	50	50
Total Organisms	416	462	297	358	358	505	625	532
ZOOPLANKTON								
Copepoda juv								
C. larvae	38	52	19	41	35	28		
C. nauplius larvae		1			1	15		
C. egg								6
Calanus finmarchicus	88	17	120	141	49	53		
C. helgolandicus							26	57
C. juv							21	6
C. sp								
Paracalanus parvus	202	210	81	93	139	235	125	89
Pseudocalans elongatus								1
P. sp							4	
Euchaeta larvae					7	12		
E. marina juv	8	8	6	3				
E. marina	3						1	
E. flava				5	5	8		
E. sp								1
Centropages abdominalis		1	1	1	2	6	2	2
C. furcatus								
C. larvae						1		
Temora discaudata								
T. stylifera								
Labidocera japonica								
Acartia clausi	42	79	34	30		36	405	310
Oithona nana	1							
O. similis	19	12	6	11	4	11		
O. plumifera							19	56
O. sp			2		6			
Oncaea venusta							2	
Corycaeus japonicus								
C. gibbulus								
C. sp	6	9	18	4	2	9	5	2
Evadne tergestina								
Penilia schmackeri								
Thalassinid sp								
Nyctiphanes australis	2	2		5	32	31		
Lucifer sp								
Parathamisto oblivia	1		1	5	11	14		
P. larvae	1	4		12				
P. sp								
Amphipoda sp							11	4
Euphausia pellucida		3	1	3		1		
E. sp								
Mysis sp			10					
Muggiaea atlantica								3
M. sp					1	1		
Pyrocystis noctiluca								
Oikopleura dioica		1				2		
O. sp							1	
Sagitta delicata								1
S. elegans				2	5	5		

May				September					
04	05	06	07	02	03	04	05	06	07
25	25	25	25	6	6	6	6	6	6
09. 00	08. 40	07. 30	06. 00	17. 30	18. 40	19. 48	21. 00	22. 10	01. 40
84. 0	1. 3	38. 8	36. 4	35. 1	57. 7	85. 4	52. 6	104. 0	99. 1
1/6	—	—	1/6	1/2	1/4	1/6	1/4	1/4	1/4
50	50	50	50	50	50	50	50	50	50
423	165	648	658	472	513	417	527	694	397
				4		1	2	4	1
60	4	6	1	14	4	3	14	26	11
10	9	6	11						
				36	25	21	47	84	165
133	14	117	70	262	157	83	175	165	36
		3							
				1	1	1	1	2	2
2		1		6	4	5	3	3	3
	1								
							1	1	
						2			
						1			
							1		
180	120	447	552	62	112	69	146	137	84
17	17	52	14						
				2	74	181	68	50	43
				18	23	19	30	42	4
					4			1	
4		2	1						
				1	18	1	6		
					1				
					2				
					2		1		
						4		4	
				13	13	7	6	4	4
13		8	7						
								7	2
1						3	1		
				3	9	1		4	
				1		5	10	5	2
			2						

Month	April							
Stat on	02	03	04	05	06	07	02	03
Date	25	25	26	26	26	26	25	25
Time	22. 25	23. 45	00. 55	02. 25	03. 55	05. 15	12. 10	09. 45
Biomass (mg/m^3)	21. 2	28. 8	95. 4	612. 0	179. 0	79. 0	32. 5	72. 8
Rate of subsample	1/2	1/2	1/6	1/10	1/8	1/4	1/4	1/8
Collected depth	50	50	50	50	50	50	50	50
Total Organisms	416	462	297	358	385	505	625	532
ZOOPLANKTON								
S. minima							5	3
S. larvae								
S. sp		2			1			
Macrurus sp							2	
Gastropoda larvae								
Lingula larvae								
Diphyes sp								
Siphonautes borealis								
Brachyura larvae						1		
Leptochela stage								
Pelagic egg	3	1	3	2	1	36		
Fish larvae								
Scale	2							

May				September					
04	05	06	07	02	03	04	05	06	07
25	25	25	25	6	6	6	6	6	6
09. 00	08. 40	07. 30	06. 00	17. 30	18. 40	19. 48	21. 00	21. 10	01. 40
84. 0	1. 3	38. 8	36. 4	35. 1	57. 7	85. 4	52. 6	104. 0	99. 1
1/6	—	—	1/6	1/2	1/4	1/6	1/4	1/4	1/4
50	50	50	50	50	50	50	50	50	50
423	165	648	658	472	513	417	527	694	397
3			2						
				42	36	16	17	38	38
		4					1	1	1
				2					
					5				
				5	3			1	
					1				
									1
								1	
					2				

O. 311선 부유생물조사성적

Plankton Data, Line 311, 1963

Month	April				May				September			
Station	04	05	06	07	04	05	06	07	04	05	06	07
Date	27	27	27	27	22	22	23	23	9	9	9	7
Time	09. 55	08. 40	11. 35	09. 35	11. 05	13. 20	07. 30	09. 05	12. 40	11. 15	07. 05	05. 20
Biomass (mg/m³)	37. 7	41. 4	52. 6	110. 7	10. 4	7. 6	38. 8	8. 7	59. 0	37. 6	48. 8	233. 6
Rate of subsample	1/2	1/4	1/4	1/6	1/3	100	1/4	100	1/4	1/2	1/2	1/6
Collected depth	25	50	50	50	30	50	50	50	50	50	50	50
Total Organisms	277	485	118	394	441	341	783	270	270	231	489	291
ZOOPLANKTON												
Copepoda juv									2	5	5	1
C. larvae	23	40	8	7		10	12	4				
C. nauplius larvae	2	13	2	10		1	1	1				
C. sp						8						
Calanus finmarchicus	10	36	8	105		38	60	27				
C. helgolandicus									14		17	10
C. juv					6							
C. sp							20	9	24	62	35	115
Eucalanus sp										1		
Acrocalanus gibber									2	1		
Paraclanus parvus	195	300	53	190	14	183	67	35	75	42	208	27
Calocalanus pavo										1		
Pseudocalanus elongatus		1										
Ctenocalanus longicornis											1	
Euchaeta marina									3		6	2
Centropages abdominalis		1		1			1					
C. furcatus											1	
C. larvae		1	1									
Temora stylifera										1		
Labidocera euchaeta									68	1		
Acartia Clausi	5	21	10	7	16	49	527	152	12	57	50	60
Tortanus discaudatus									1			
Oithona similis		6		9								
O. plumifera	4	1	3						2	16	28	22
O. sp					3		91	37				
Corycaeus gibbulus										2	6	
C. japonicus									31	3	60	5
C. sp	13	16	3	4	2	12	4	4				
Evadne tergestina									1	2		
Conchoecia sp			1									
Euphausia pellucida	1		4	1								
E. larval stage												3
E. sp						1				2	1	9
Lucifer sp									1			
Nyctiphanes australis		15	3	9		1						1
Parathemisto oblivia	2		4	2								
P. sp						10	6	3		2	3	5
Thalassinid sp									1		8	1
Amphipoda sp					1							
Gastrosaccus indicus		7	1									
Leptochela stage									1			
Mysis sp	9								1			
Muggiaea atlantica				1								
M. sp			3	3								1
Oikopleura dioica		3	3			6						
O. sp					2					1		
Sagitta elegans	3											
S. larvae	1								17	16	39	13
S. sp		1	3	3			1	1	1			1
Bivalves larvae	1											
Brachyura larvae		1									1	1
Asterias sp		1										
Polychaeta larvae									2		1	
Lingula larvae										1		
Balanus larvae											4	
Diphyes sp										2	7	3
Pelagic egg		9		36		3	1	1		6	1	2
Salpa sp									3	5		2
Scale		1										

P. 310선 부유생물조사성적

Plankton Data, Line 310, 1963

Month	April					September				
Station	03	04	05	06	07	03	04	05	06	07
Date	29	29	29	29	29	9	9	9	9	9
Time	11. 05	12. 20	13. 30	14. 40	15. 50	17. 00	18. 17	19. 20	20. 35	21. 40
Biomass(mg/m3)	34. 5	89. 1	46. 4	31. 3	25. 0	47. 6	—	21. 2	76. 5	117. 0
Rate of subsample	1/2	1/6	1/4	1/4	1/4	1/4	—	—	1/4	1/4
Collected depth	20	50	50	50	50	50	50	50	50	50
Total Organisms	72	586	263	286	361	516	120	236	249	286
ZOOPLANKTON										
Copepoda juv						6	6	8	2	3
C. larvae	37	425	58	73	40					
C. nauplius larvae		2	1	2	4			3		
Calanus finmarchicus	7	18	18	40	12					
C. helgolandicus								91	28	51
C. sp						7	4	33	117	88
Paracalanus parvus	13	79	39	52	74	387		20	22	10
Euchaeta marina juv						3	6	4		
E. marina								6	1	1
Centropages abdominalis		13	17	20	12					
C. larvae				12	3					
C. sp			3							
Acartia clausi	2	11	86	55	184	10	5	11	48	29
A. larvae				4						
Oithona similis				1	5					
O. plumifera	1	1	6	3	5		1	9	62	44
Corycaeus japonicus							5	12	7	4
C. gibbulus							1			
C. speciosus						35				
Nyctiphanes australis	1									
Parathemisto larvae				3						
P. oblivia				1						
Paradiastylis longipes	1									
Thalassinid sp								1	6	5
Labidocera euchaeta						26				
Amphipoda sp						1				
Pandalid larvae						14	1			
Ophipluteus larvae									1	1
Noctiluca scintillans	1									
Muggiaea atlantica						3				
Sagitta larvae						11	14	14	46	41
S. sp	1	3	3	4	5	1				1
Bivalves larvae	1					2	1	1	1	
Oikopleura dioica	1			1						1
O. sp			1							
Brachyra larvae						2		1		
Gastropoda larvae						12				
Diphyes sp						2	10	10	16	5
Banlanus larvae							1			
Megalopa larvae								1		
Doliolum denticulatum									3	2
Salpa sp							6	15		
Fish larval stage						1	1			
Pelagic egg	1	3			1	1	1	7		

Q. 309선 부유생물 조사성적

Plankton Data ,Line 309, 1963

Month	May						
Station	01	02	03	04	05	06	07
Date	2	2	2	2	2	2	2
Time	00. 35	01. 30	02. 45	04. 25	05. 35	06. 40	07. 41
Biomass(mg/m^3)	124. 1	62. 8	92. 7	43. 4	15. 0	14. 6	23. 8
Rate of subsample	1/6	1/4	1/4	1/2	1/2	1/2	1/2
Collected depth	50	30	40	50	50	50	50
Total Organisms	582	361	484	461	165	634	58
ZOOPLANKTON							
Copepoda juv							
C. larvae	17	22	95	121	35		
C. nauplius larvae	6	1	1	2	1	9	
C. sp	9	2	58	13			
Calanus finmarchicus			9	19	16	5	
C. helgolandicus	19	11	5	37	1	2	
C. sp						12	6
C. larvae						10	
Paracalanus parvus		24	13	42	3	4	2
Euchaeta marina							
E. marina juv							
Centropages abdominalis	16	25	268	157	55	60	11
Labidocera japonica							
Acartia clausi	1	7	15	34	33	501	31
Tortanus forcipatus							
T. discaudatus							
Oithona similis							
O. plumifera			1	8			
O. sp		3			6	16	2
Setella gracilis							
Corycaeus japonicus							
C. gibbulus							
C. sp		14	9	6		2	
Thalassinid larvae				2	1		
T. sp							
Evadne tergestina							
Podon Schmackeri							
Euphausia pellucida			1				
E. sp				3	3		
Lucifer larvae							
Nyctiphanes australis	6	2	4	6	2	2	
Parathemisto oblivia			1	2			
P. sp	4	3		3	3	2	
Pandalid larvae							
Noctiluca scintillans	459	214					
Oikopleura dioica	38	4					
O. sp							
Muggiaea atlantica							
Ophiopluteus larvae							
Sagitta elegans			1		1		
S. larvae							
S. sp				1			
Balanus larvae							
Gastropoda larvae							
Bipinnaria larvae	1	1					
Polychaeta larvae	1						
Bivalves larvae							
Megalopa larvae							
Brachyura larvae							
Diphyes sp							
Dioiolum denticulatum							
Pelagic egg	3	9	2	4	5	2	3
Fish larvae							
Fish egg		3					
Engraulis japonica egg							
E. japonica larvae			1				

September						
01	02	03	04	05	06	07
10	10	01	10	10	10	10
08. 25	06. 50	05. 40	04. 30	03. 20	02. 15	01. 00
80. 8	15. 0	38. 8	31. 2	43. 8	22. 4	37. 6
1/4	100	1/2	1/2	1/2	100	1/2
50	50	50	50	50	50	50
501	272	297	281	354	247	368
15	7	2	2		7	
1	17	1	3	1	1	3
3	9	20	14	26	60	38
31	16	5	27	86	74	82
166	68	52	53	79	29	82
1	2	4	2	3	1	1
		6	4	10	2	1
38	9	40		1	1	
6	1	6	6	6	4	15
6						
10						
19	62	25	8	16	2	5
			16	18	12	47
		1				
59	8	30	19	6	8	13
2	5	3	6	1		3
18	3	18	8	4	3	
6			2	42	26	2
2					1	
5	1					
						2
	2	1				
				6	5	3
12			2	1		
			2			
26						
48	10	26	27	14	18	22
	5	6	2	2		
3						
		8	14	27		
7						
30	15	19	21			1
5						
15	12	7	3			
4	8	13	12	3		3
	7		12	1		9
3	5	4	11	2		
					2	2
						1

R 308선 부유생물 조사성적

Plankton Data ,Line 308, 1963

Month	May						
Station	01	02	03	04	05	06	07
Date	2	2	2	2	2	2	2
Time	17. 30	16. 20	15. 20	14. 07	13. 00	11. 55	10. 50
Biomass (mg/m³)	7. 6	11. 3	10. 0	33. 8	20. 0	8. 7	11. 3
Rate of subsample	100	100	100	1/2	100	100	100
Collected depth	50	50	50	50	50	50	50
Total Organisms	867	395	241	227	284	121	179
ZOOPLANKTON							
Copepoda juv							
C. larva	10	42	28	10	9	6	12
C. nauplius larva	4	19	13	4	4	13	6
Calanus finmarchicus	6						
C. helgolandicus		15	38		12		1
C. sp							
Paracalanus parvus	19	8	13	28	55	8	
Ctenocalanus longicornis							
Euchaeta marina							
E. juv							
Centropages abdominalis	30	183	97	17	120	6	78
C. sp							
Labidocera japonica							
Acartia clausi	10	5	10	16	16	18	47
Oithona Plumifera							11
O. sp	3	13	12	24	20	21	
Tortanus discaudatus							
T. forcipatus							
Corycaeus japonicus							
C. gibbulus							
C. sp	7	10	14	89	11	3	2
Evadne tergestina							
Penilia sehmackeri							
Nyctiphanes australis	4	24	6	2	7		5
Parathemisto oblivia					1		
P. larvae					18		
P. sp		16	5	2		1	4
Thalassinid larvae					2		
T. sp							
Pandalid larvae							
Euphausia sp							
Trypaea sp							
Oxycephalus sp							
Noctiluca scintillans	19	1	1	10			
Muggiaea atlantica							
M. sp							
Sagitta elegans				3	1		
S. larvae							
Oikopleura dioica	25	32		2			
O. fusiformis							
O. sp	8	5			1		1
Ophiopluteus larvae		1			1		
Balanus larvae							
Gastropoda larvae	18						
Bipinnaria larvae	1	10					
Polychaeta larvae		1	1	10	1		
Echinopluteus larvae				1			
Bivalves larvae			3				
Doliolum denticulatum							
Diphyes bojani							
Fritillaria pellucida							
Linagula larvae							
Pelagic egg	3	9	3	6	4		
Fish larvae					1		
Scale		1					

September						
01	02	03	04	05	06	07
15	15	15	15	15	15	15
08. 50	10. 00	15. 11	12. 10	13. 15	14. 25	15. 35
45. 4	68. 1	42. 5	117. 4	46. 1	5. 0	3. 8
1/2	1/6	1/4	1/8	1/6	100	100
18	24	50	53	49	50	50
239	372	526	236	286	719	155
2	33	61	27	12	34	55
1	3	5	3	5	6	1
		6				
		11	3	1	1	
25	91	111	30	33	74	28
			3		3	
		2				
				1	2	
8	3					
33	4				1	
	3	2		1	5	4
5	17	36	15	16	128	11
42	1	1				
	3					
27	53	20	17	25	26	23
	4	2				
2	33	80	34	30	76	32
4	53	130	63	141	219	2
	2				1	
	1	1		1		
3						
	2		2		3	
	1	2				
1						
		11				
1						
	2					
3		1	1			
38	13	20	14	15	66	
12	19					
7		3	9	3	18	
2	10	5	7	2	15	
3	2					
			2			
3	1	2	1			
2	4	2	1			
1	9	3				
	1					
		1	2		3	
		1		9	2	
		1	1		1	

S. 307선 부유생물 조사성적

Plankton Data, Line 307, 1963

Month	May					September			
Station	03	04	05	06	07	04	05	06	07
Date	8	7	7	7	7	15	15	15	15
Time	01. 35	23. 55	22. 50	21. 35	19. 45	23. 19	22. 00	20. 45	19. 45
Biomass (mg/m^3)	14. 1	31. 4	17. 2	7. 6	17. 1	90. 5	68. 4	41. 4	21. 2
Rate of subsample	100	100	100	100	100	1/4	1/6	1/4	1/4
Collected depth	40	50	40	50	44	34	45	50	50
Total Organisms	101	263	485	253	570	332	168	333	451
ZOOPLANKTON									
Copepoda larvae	5	30	16	18	35	31	9	31	27
C. nauplius larvae	1	3	17	3	18			4	3
Calanus finmarchicus	1	8	13	13	10				
C. helgolandicus						2			
C. sp	1	10	8		6	18	3	14	
Paracalanus parvus	9	53	3	56	59	88	33	57	44
Ctenocalanus longicornis						1		2	
Euchaeta marina juv								1	
Centropages abdominalis	6	37	83	15	136				
Acartia clausi	20	59	285	104	85	1		1	
Tortanus forcipatus						1			
Oithona plumifera						31	12	72	
O. sp		16	23	11	54				
Corycaeus japonicus						30	38	11	
C. gibbulus						4		5	
C. sp	1	8	9	27	15				
Evadne tergestina						6	41	49	40
Penilia schmackeri						19		64	169
Podon Schmackeri							2	2	1
Euphausia pellucida	2								
E. larval stage						2			
Fritillaria pellucida									2
Nyctiphanes australis		4			2	7			1
Parathemisto sp			2		1		1	6	2
Conchoecia sp			1						
Oxycephalus sp						3			
Thalassinid sp						6	8	1	3
Noctiluca scintillans	45	8			106				
Muggiaea sp						2			
Obelia geniculata								2	
Oikopleura sp		4							2
Ophiopluteus larvae					10	1		3	
Polychaeta larvae		4	1		4	2			
Sagitta larvae						25	10	15	48
S. sp	2	4	5	2	4	1			
Brachyura larvae						10	6		
Balanus larvae							1	1	
Gastropoda larvae					1				
Bipinnaria larvae	1								
Bivalves larvae		2				1			
Bodotria sp			1						
Pelagic egg	7	7	17	4	59				1
Scale			1						
Engraulis japonica egg									2
Lingula larvae								1	

T. 306선 부유생물 조사성적

Plankton Data, Line 306, 1963

Month	May				
Station	01′	02′	05	06	07
Date	7	7	7	7	7
Time	09. 35	10. 35	13. 15	14. 55	16. 00
Biomass(mg/m^3)	30. 5	94. 2	100. 5	54. 4	49. 8
Rate of subsample	1/4	1/4	1/4	1/6	1/8
Collected depth	35	10	10	15	15
Total Organisms	863	439	958	650	1001
ZOOPLANKTON					
Copepoda larvae		1	1	1	1
C. nauplius larvae					1
Calanus finmarchicus	5	1		1	1
C. helgolendicus	3				
C. larvae	2				
C. sp	2				
Paracalanus parvus	11	7		3	1
Centropages abdominlis	4		1	1	2
Labidocera euchaeta	1	10	2	7	
Acartia clausi	157	50	88	76	40
Oithona sp	3	1			1
Corycaeus sp	1				
Euphausia sp	1				
Nyctiphanes australis	1				
Parathemisto sp					1
Amphipoda sp	1				
Mysis sp				1	
Noctiluca scintillans	672	366	895	557	953
Sagitta elegans	3				
Ophiopluteus larvae			1		
Polychaeta larvae	3	1		2	
Bivalves larvae				1	

제 3 편

특 별 해 양 관 측 성 적

PART 3

MISCELLANEOUS OCEANOGRAPHIC OBSERVATIONS

1963

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진 해 만 해 양 조 사

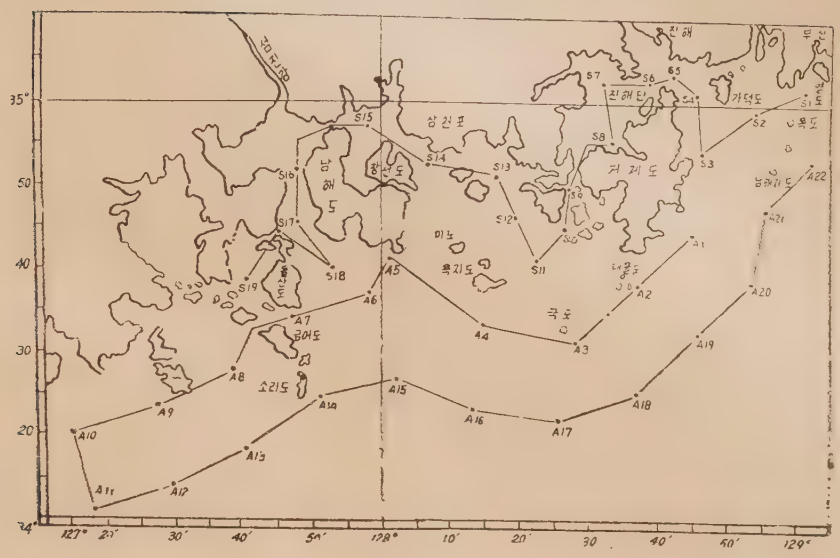
OCEANOGRAPHIC OBSERVATIONS

CHINHAE-MAN

1 9 6 3

진해만 해양관측점 위치도

Station Locations, Chinhae-Man.



진해만 해양관측점 위치표

Position of the Oceanographic Stations, Chinhae-Man.

S_1	35°02′ 129°02′	S_{11}	34°41′ 128°22′	A_1	34°45′ 128°45′	A_{11}	34°27′ 128°01′	A_{21}	34°18′ 127°10′
S_2	34°59′ 128°55′	S_{12}	34°46′ 128°19′	A_2	34°39′ 128°36′	A_{12}	34°24′ 128°13′	A_{22}	34°16′ 126°58′
S_3	34°55′ 128°47′	S_{13}	34°51′ 128°17′	A_3	34°32′ 128°27′	A_{13}	34°23′ 128°24′		
S_4	35°02′ 128°46′	S_{14}	34°52′ 128°06′	A_4	34°33′ 128°15′	A_{14}	34°25′ 128°36′		
S_5	35°04′ 128°41′	S_{15}	34°57′ 127°58′	A_5	34°42′ 128°09′	A_{15}	34°37′ 128°45′		
S_6	35°02′ 128°38′	S_{16}	34°51′ 127°47′	A_6	34°37′ 127°59′	A_{16}	34°38′ 128°54′		
S_7	35°02′ 128°32′	S_{17}	34°45′ 127°47′	A_7	34°34′ 127°47′	A_{17}	34°48′ 128°57′		
S_8	34°55′ 128°33′	S_{18}	34°43′ 127°50′	A_8	34°28′ 127°38′	A_{18}	34°54′ 129°02′		
S_9	34°49′ 128°27′	S_{19}	34°38′ 127°42′	A_9	34°18′ 127°41′	A_{19}	34°25′ 127°33′		
S_{10}	34°45′ 128°26′			A_{10}	34°24′ 127°50′	A_{20}	35°21′ 127°21′		

진 해 만 해 양 관 측 성 적

Oceanographic Data, Chinhae-Man.

Date		① April 1963			
Sta. No.		S_1	S_2	S_3	S_4
Day		26	26	26	26
Item	Time / Z(m)	0650	0735	0825	0900
T °C	0	11.60	11.80	11.80	11.80
	5	—	—	—	—
	10	11.60	11.70	11.70	11.60
	15	—	—	—	—
	25	—	11.50	11.50	11.60
	28	—	—	—	—
S ‰	0	—	—	—	—
	5	—	—	—	—
	10	—	—	—	—
	15	—	—	—	—
	25	—	—	—	—
	28	—	—	—	—
Depth (m)		25	25	25	30
Secchi (m)		1.9	1.9	2	2
Color		—	—	—	—
Sea		2	2	—	—
Swell		1	1	—	—
Air Temp. (°C)		10.5	11.5	13.0	14.0
Baro. (mm)			—	—	—
Wind		NW. 3	NW. 3	NW. 2	NW. 2
Cloud		—	—	—	—
Weather		B	B	—	—

April 1963

S_5	S_6	S_7	S_8
26	26	26	26
1020	1105	1125	1205
11.40	12.20	12.70	13.50
—	—	—	—
11.50	11.50	11.20	11.70
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
16	20	14	20
2	2	6	7
—	—	—	—
1	1	1	—
1	1	1	—
14.5	14.6	15.5	17.0
—	—	—	—
NW. 1	NW. 1	—	NW. 1
—	—	—	—
B	B	B	—

Date		April 1963			
Sta. No.		S_9	S_{10}	S_{11}	S_{12}
Day		26	26	26	26
Item	Time / Z(m)	1345	1555	1630	1700
T °C	0	13.00	13.00	13.40	13.20
	5	12.50	—	13.40	12.20
	10	—	12.50	12.50	—
	15	—	—	—	—
	25	—	11.70	12.30	11.80
	28	—	—	—	—
S ‰	0	—	—	—	—
	5	—	—	—	—
	10	—	—	—	—
	15	—	—	—	—
	25	—	—	—	—
	28	—	—	—	—
Depth (m)		9	25	30	25
Secchi (m)		7.5	4	3.5	4
Color		—	—	—	—
Sea		2	—	—	—
Swell		1	0	—	—
Air Temp. (°C)		15.5	16.5	16.5	15.5
Baro. (mm)		—	—	—	—
Wind		NW. 2	N. 1	S. 1	S. 1
Cloud		—	4	3	3
Weather		BC	B	BC	BC

April 1963				
S_{13}	S_{14}	S_{15}	S_{16}	S_{17}
26	28	28	28	28
1735	0800	0845	1210	1315
13. 60	12. 00	11. 40	12. 10	12. 50
—	—	—	—	—
12. 20	12. 00	12. 20	11. 90	11. 50
11. 50	—	—	—	—
—	—	—	—	—
—	—	—	11. 60	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
17	15	15	27	10
5	2	2	2	2
—	—	—	—	—
—	—	—	3	4
—	—	—	1	—
17. 3	13. 5	13. 8	14. 0	13. 5
—	—	—	—	—
S. 1	S. 3	S. 2	S. 4	S. 4
3	10	10	10	10
BC	BC	C	C	C

Date		② May 1963						
Sta. No.		S_1	S_2	S_3	S_4	S_5	S_6	S_7
Day		22	22	22	23	23	23	23
Item	Time / Z (m)							
T °C	0	16.20	16.00	15.50	14.90	14.20	15.20	16.80
	10	13.50	13.10	13.60	13.20	14.10	14.10	14.00
	25	13.00	—	13.20	12.70	13.80	13.60	13.70
	50	—	—	—	—	—	—	—
	Botm.	—	—	—	—	—	—	—
S ‰	0	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—
	25	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—
	Botm.	—	—	—	—	—	—	—
Depth (m)		25	20	27	25	29	26	28
Secchi (m)		2	2	4	3	3.5	4	5
Color		—	—	—	—	—	—	—
Sea		—	—	—	—	—	—	—
Swell		—	—	—	—	—	—	—
Air Temp. (°C)		18.4	17.8	18.5	16.5	16.5	16	17.5
Baro. (mm)		—	—	—	—	—	—	—
Wind		—	—	—	—	—	—	—
Cloud		—	—	—	—	—	—	—
Weather		—	—	—	—	—	—	—

May 1963

S_8	S_9	S_{10}	S_{11}	S_{12}	S_{13}
23	23	24	24	24	24
16.40	16.00	14.80	14.20	14.60	16.60
13.70	14.40	14.10	13.80	13.90	—
12.70	—	—	13.90	—	—
—	—	—	13.80	—	—
—	—	—	—	13.00	15.40
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
26	12	15	50	20	10
8	6	4	4	5	5
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
19.1	21.7	17.1	17.5	17.7	18.5
—	—	—	—	—	—
—	—	—	—	S.1	—
—	—	—	—	10	10
—	—	—	—	C	C

Date		May 1963					
Sta. No.		S_{14}	S_{15}	S_{16}	S_{17}	S_{18}	S_{19}
Day		24	24	24	24	24	26
Item	Time / Z(m)						
T °C	0	16.40	16.70	15.90	16.40	15.30	15.90
	10	—	—	—	—	—	—
	25	—	—	—	—	—	—
	50	—	—	—	—	—	—
	Botm.	15.50	16.20	15.60	15.00	14.80	15.70
S ‰	0	—	—	—	—	—	—
	10	—	—	—	—	—	—
	5	—	—	—	—	—	—
		—	—	—	—	—	—
	Botm.	—	—	—	—	—	—
Depth (m)		10	15	10	10	15	5
Secchi (m)		3.5	2	1	1	1	1.5
Color		—	—	—	—	—	—
Sea		—	—	—	—	—	—
Swell		—	—	—	—	—	—
Air Temp. (°C)		17.6	20.5	17.5	17.2	16.5	16.4
Baro. (mm)		—	—	—	—	—	—
Wind		S.1	—	S.2	2	2	—
Cloud		10	—	10	9	10	10
Weather		C	—	C	C	C	C

Date		③ July 1963					
Sta. No.		S_1	S_2	S_3	S_4	S_5	S_6
Day		20	20	25	20	20	20
Item	Time / Z(m)	0850	1000	1155	1130	1215	1300
T °C	0	21.60	20.41	19.90	22.40	23.40	22.20
	10	19.30	18.40	14.70	15.20	17.20	—
	15	—	—	—	—	—	15.30
	20	—	—	—	—	—	—
	25	14.40	15.50	12.60	15.20	14.80	—
	Botm.	—	—	—	—	—	—
S ‰	0	—	—	—	—	—	—
	10	—	—	—	—	—	—
	15	—	—	—	—	—	—
	20	—	—	—	—	—	—
	25	—	—	—	—	—	—
	Botm.	—	—	—	—	—	—
Depth (m)		45	40	30	45	40	35
Secchi (m)		6	4	3	3	3	4
Color		—	—	—	—	—	—
Sea		4	1	3	—	—	—
Swell		2	1	2	1	—	—
Air Temp. (°C)		21.7	21.7	23.4	24.4	24.8	24.5
Baro. (mm)		—	—	—	—	—	—
Wind		S. 2	—	SW. 4	—	SW. 4	SSW. 4
Cloud		Ci. 6	—	10	—	As. 10	As. 8
Weather		BC	B	C	—	C	C

Date		July 1963					
Sta. No.		S_7	S_8	S_9	S_{10}	S_{11}	S_{12}
Day		20	20	21	21	21	21
Item	Time / Z(m)	1530	1630	0830	1300	1350	1455
T °C	0	26.00	24.10	21.40	21.10	23.80	24.00
	10	—	16.00	18.20	17.60	15.40	20.60
	15	15.40	—	—	—	—	—
	20	—	—	—	16.80	19.70	16.20
	25	—	15.60	—	—	—	—
	Botm.	—	—	—	—	11.16	—
S ‰	0	—	—	—	—	—	—
	10	—	—	—	—	—	—
	15	—	—	—	—	—	—
	20	—	—	—	—	—	—
	25	—	—	—	—	—	—
	Botm.	—	—	—	—	—	—
Depth (m)		20	35	20	35	—	40
Secchi (m)		5	9	4	4	7	9
Color		—	—	—	—	—	—
Sea		—	—	—	—	—	—
Swell		—	—	—	—	—	—
Air Temp. (°C)		26.9	27.8	25.3	26.2	26.8	27.2
Baro. (mm)		—	—	—	—	—	—
Wind		—	SW. 3	SW. 2	S. 4	N. 5	SW. 5
Cloud		As. 9	As. 7	10	As 9	5	5
Weather		C	BC	C	C	BC	BC

July 1963

S_{13}	S_{14}	S_{15}	S_{16}	S_{17}	S_{18}	S_{19}
21	21	22	22	22	22	22
1530	1700	0800				1220
24.80	22.70	23.70	21.90	23.40	23.20	23.70
—	—	—	20.90	—	—	—
16.80	18.20	—	—	—	20.60	—
—	—	—	19.90	—	—	—
—	—	—	—	—	—	—
—	—	—	—	18.8	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
20	26	15	25	15	15	7
6	3	—	2	4	3	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
27.5	25.8	23.7	25.6	27.2	27.2	27.2
—	—	—	—	—	—	—
SW. 4	SW. 6	S. 1	S. 2	S. 2	S. 2	S. 5
As. 8	As. 8	Ci. 8	Sc. 8	Sc. 7	Sc. 7	Ci. 8
C	C	BC	C	BC	BC	C

Date		July 1963							
Sta. No.		A_1	A_2	A_3	A_4	A_5	A_6	A_7	A_8
Day									
Item	Time / Z(m)	1020		0715	0620	0942	1645		1410
T °C	0	15.10	17.20	21.70	22.50	21.60	24.10	20.80	22.50
	10	14.40	15.70	20.60	20.50	20.40	21.80	—	21.20
	25	13.20	13.60	14.80	16.80	18.00	17.60	—	—
	50	12.60	—	12.60	—	—	—	—	—
	Botm.	—	12.3	—	—	—	—	20.2	—
S ‰	0	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—
	25	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—
	Botm.	—	—	—	—	—	—	—	—
Depth (m)		60	40	50	43	32	26	10	14
Secchi (m)		3	5	8	10	11	12	3	3
Color		—	—	—	—	—	—	—	—
Sea		2	2	2	2	—	—	—	2
Swell		1	1	2	1	1	1	1	1
Air Temp. (°C)		21.7	21.7	—	24.1	26.2	25.1	25.7	25.7
Baro. (mm)		—	—	—	—	—	—	—	—
Wind		SW. 2	SW. 4	S. 5	SW. 3	S. 1	SW. 3	SW. 3	S. 3
Cloud		F. 10	9	Ci. 8	10	9	As. 9	As. 8	8
Weather		C	C	C	C	C	C	C	C

Date		④ September 1963					
Sta. No.		S_1	S_2		S_4	S_5	S_6
Day		9	9		9	9	9
Item	Time / Z(m)	0910	0945		1105	1150	1215
T °C	0	22.00	23.10		21.40	21.10	21.40
	10	22.10	23.60		20.40	20.40	20.30
	20	17.20	20.60		—	19.80	19.30
	25	—	—		—	17.90	—
	Botm.	—	—		—	—	—
S ‰	0	—	—		—	—	—
	10	—	—		—	—	—
	20	—	—		—	—	—
	25	—	—		—	—	—
	Botm.	—	—		—	—	—
Depth (m)		—	—		—	—	—
Secchi (m)		5	5		3.8	3.2	—
Color		—	—		—	—	—
Sea		1	1		1	1	—
Swell		2	2		1	—	—
Air Temp. (°C)		24.4	24.1		24.8	23.1	23.6
Baro. (mm)		—	—		—	—	—
Wind		NE. 4	NE. 3		N. 3	N. 3	N. 3
Cloud		As. 9	As. 9		As. 9	As. 9	—
Weather		C	C		C	C	C

Date		September 1963					
Sta. No.		S_7	S_8	S_9	S_{10}	S_{11}	S_{12}
Day		9	9	9	10	10	10
Item	Time / Z (m)	1300	1345	1510	0640	0735	0835
T °C	0	23. 20	24. 00	21. 30	21. 00	23. 20	22. 60
	10	22. 50	21. 10	19. 30	20. 80	22. 70	22. 20
	20	—	19. 50	—	20. 00	—	19. 10
	25	—	—	—	—	22. 60	—
	30	—	—	—	—	—	—
	35	—	—	—	—	—	—
	60	—	—	—	—	20. 80	—
	Botm.	—	—	—	—	—	—
S ‰	0	—	—	—	—	—	—
	10	—	—	—	—	—	—
	20	—	—	—	—	—	—
	25	—	—	—	—	—	—
	30	—	—	—	—	—	—
	35	—	—	—	—	—	—
	60	—	—	—	—	—	—
	Botm.	—	—	—	—	—	—
Depth (m)		—	—	—	—	—	—
Secchi (m)		5. 5	6	4	6	11	8
Color		—	—	—	—	—	—
Sea		1	—	—	—	—	—
Swell		—	—	—	—	—	—
Air. Temp. (°C)		27. 7	25. 5	26. 5	—	23. 0	23. 5
Baro. (mm)		—	—	—	—	—	—
Wind		N. 3	N. 2	N. 2	NW. 2	NW. 2	NW. 3
Cloud		—	As. 9	As. 9	—	—	—
Weather		C	C	C	B	B	B

September 1963					
S_{13}	S_{14}	S_{15}	S_{16}	S_{17}	S_{18}
10	10	10	10	10	10
0945	1030	1200	1320	1445	1025
23. 10	23. 50	24. 00	23. 50	23. 50	22. 90
21. 20	21. 50	—	23. 00	23. 30	22. 60
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	22. 50	—
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
8. 5	8. 7	—	2. 8	2. 5	4
—	—	—	—	—	—
1	1	—	—	—	2
—	—	—	—	—	1
23. 0	26. 0	25. 5	—	27. 0	23. 7
—	—	—	—	—	—
NW. 2	NW. 2	—	—	—	NNE. 5
—	—	—	—	—	Ci. 10
B	—	B	B	—	C

Date		September 1963				
Sta. No.		A_3	A_4	A_5	A_6	A_7
Day						
Item	Time / Z (m)	1030	0830	1520	1345	1150
T °C	0	23.40	24.10	23.50	23.60	23.30
	10	23.20	24.10	23.30	22.50	23.20
	25	23.20	23.70	22.40	20.20	22.60
	50	17.20	16.80	—	—	—
	Botm.	—	—	—	—	—
S ‰	0	—	—	—	—	—
	10	—	—	—	—	—
	25	—	—	—	—	—
	50	—	—	—	—	—
	Botm.	—	—	—	—	—
Depth (m)		—	—	—	—	—
Secchi (m)		15	15	9	6	5
Color		—	—	—	—	—
Sea		7	5	3	4	3
Swell		3	2	1	2	2
Air Temp. (°C)		22.5	23.1	22.2	21.1	23.9
Baro. (mm)		—	—	—	—	—
Wind		—	N. 6	N. 3	—	—
Cloud		Cu. 8	Cu. 10	—	10	Ci. 10
Weather		C	C	R	C	C

동 해 해 양 조 사

OCEANOGRAPHIC OBSERVATIONS

EAST COAST

1 9 6 3

죽변선및 동해남부 해양관측점 위치도

Station Locations, Chukbyon Line and Korea Strait.

죽변선및 동해남부 해양관측점 위치표

Station Positions, Chukbyon Line & Korea Strait.

	01	02	03	04	05	06
죽 변 선	37°04′ 40″ 129°29′ 0″	37°08′ 32″ 129°43′ 42″	37°13′ 40″ 130°01′ 0″	37°18′ 30″ 130°18′ 40″	37°23′ 30″ 130°36′ 20′	37°26′ 45″ 130°48′ 0″
동해남부	34°57′ 20″ 129°20′ 31″	35°09′ 00″ 129°23′ 36″	35°20′ 00″ 129°23′ 36″	35°31′ 00″ 129°30′ 00″		

죽변선 해양관측성적

Oceanographic Data, Jukbyon Line.

Date		① July 1963					
Sta. No.		01	02	03	04	05	06
Day		15	15	15	15	15	15
Item	Time / Z(m)	0720	0930	1100	1245	1434	1550
T °C	0	17.80	19.80	20.00	19.90	20.20	20.10
	10	13.52	19.53	18.09	19.41	20.02	20.14
	25	6.75	8.34	7.63	12.75	13.32	13.36
	50	3.33	6.09	5.73	6.13	9.35	8.96
	100	1.81	2.00	2.96	2.27	2.54	2.46
	150	—	1.71	2.09	1.43	1.50	1.45
	200	—	1.35	1.67	0.92	0.95	1.00
	300	—	1.03	0.72	0.	0.55	0.55
	Botm.	1.60	—	—	—	—	—
S ‰	0	33.03	32.94	32.88	33.10	33.12	32.86
	10	33.35	32.99	33.21	33.10	33.22	33.31
	25	33.77	33.87	33.80	34.02	33.84	33.86
	50	33.91	33.87	33.84	34.05	34.07	33.89
	100	34.02	33.91	33.86	34.04	34.07	33.95
	150	—	34.02	33.98	34.05	34.07	34.00
	200	—	34.02	34.04	34.07	34.07	34.02
	300	—	34.05	33.93	34.07	34.09	34.07
	Botm.	—	—	—	—	—	—
Depth (m)		147	—	—	—	—	—
Secchi (m)		11	20	19	19	21	20
Color		—	—	—	—	—	—
Sea		4	5	4	4	4	4
Swell		2	2	2	2	2	2
Air Temp. (°C)		20.5	23.3	23.5	23.7	24.0	23.9
Baro. (mm)		764	764	764	764	764	764
Wind		NE. 2	NE. 3	NE. 2	NE3	NE3. 5	NE3
Cloud		Cu. 9	St. 8	St. 8	St. 9	Cu. 8	St. 8
Weather		C	C	C	C	C	C

동 해 남 부 해 양 관 측 성 적

Oceanographic Data, Korea Strait.

Date		① June 1963			
Sta. No.		01	02	03	04
Day		27	27	27	27
Item	Time / Z(m)				
T °C	0	17.90	18.10	18.10	17.40
	10	17.50	17.70	17.50	17.10
	25	17.30	17.40	15.60	13.60
	50	13.20	12.60	12.20	12.40
	100	—	8.50	8.50	—
	130	11.30	—	—	—
	Botm.	—	—	—	—
S ‰	0	32.52	32.34	32.77	30.64
	10	32.70	32.81	32.81	32.30
	25	33.04	32.86	33.04	33.89
	50	33.93	34.47	34.47	34.29
	100	—	34.58	34.37	—
	130	34.33	—	—	—
	Botm.	—	—	—	—
Depth (m)		135	140	105	7
Secchi (m)		15	18	—	—
Color		—	—	—	—
Sea		1	—	—	1
Swell		1	1	1	1
Air Temp. (°C)		18.7	18.9	18.6	—
Bcro. (mm)		—	—	—	—
Wind		NE. 2	—	NE. 1	NE. 1
Cloud		C. 10	10	10	10
Weather		C	F	R	R

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